

**SONY®**

DIGITAL AUDIO MIXER

**DMX-E2000**

MAINTENANCE MANUAL

1st Edition

Serial No. 10001 and Higher (For UC)

Serial No. 20001 and Higher (For J)

Serial No. 30001 and Higher (For EK)

## SAFETY CHECK-OUT

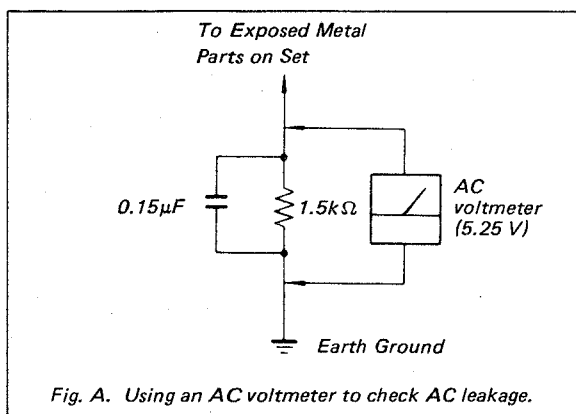
After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 5.25 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20V AC range are suitable. (See Fig. A)



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## このマニュアルについて

### 本書の目的

本書は、下記対称機種メンテナンスマニュアルパート2です。

対称機種: DMX-E2000

本書は、サービスエンジニアの方々にご使用いただくことを想定し、これらの機種の部品レベルまでのサービスを前提とした情報 (回路図、マウント図、詳細パーツリスト等) を記載しています。

### 構成

本書の構成を把握していただくために、全章の概略を以下に説明します。

### メンテナンスマニュアルパート2

#### 第1章 サービスインフォメーション

補修部品注意事項、基板内スイッチの設定、自己診断について説明しています。

#### 第2章 電気調整

MIX-17基板を交換した際に必要な調整について記載しています。

### SECTION 3 BOARD LAYOUTS

マウント図、部品の基板アドレスを記載しています。

### SECTION 4 SCHEMATIC DIAGRAMS

回路図を記載しています。

### SECTION 5 SEMICONDUCTOR PIN ASSIGNMENTS

使用半導体の標準図を記載しています。

### SECTION 6 SPARE PARTS

分解図・メカ部品表、電気部品表を記載しています。

メンテナンスマニュアルパート1 (DMX-E2000に付属しています)

#### 第1章 設置

#### 第2章 サービスインフォメーション

### SECTION 3. BLOCK DIAGRAMS, DESCRIPTION AND FRAME WIRING

### SECTION 4. SPARE PARTS

## MANUAL STRUCTURE

### Purpose of This Manual

This manual is Maintenance Manual Part 2 for the following models.

**Models:** DMX-E2000

This manual describes the information items (adjustments, board layouts, schematic diagrams, detailed parts list, etc.) that premise the service based on parts.

If this manual is required, please contact to Sony's service organization.

### Contents

The following are a summary of all the sections for understanding the contents of this manual.

### Maintenance Manual Part 2

#### SECTION 1. SERVICE OVERVIEW

Describes the precautions for repair parts, switch setting on the boards and self-diagnostics.

#### SECTION 2. ELECTRICAL ALIGNMENTS

Describes adjustments required when MIX-17 board is replaced.

#### SECTION 3. BOARD LAYOUTS

Printed circuit pattern of circuit boards and their printed symbols are shown in the almost same order of schematic diagrams.

#### SECTION 4. SCHEMATIC DIAGRAMS

Contains schematic diagrams of printed circuit board.

#### SECTION 5. SEMICONDUCTOR PIN ASSIGNMENTS

Contains pin assignment diagrams of semiconductors used.

#### SECTION 6. SPARE PARTS

Contains exploded views, mechanical parts list, and electrical parts list.

### Maintenance Manual Part 1 (Supplied with DMX-E2000)

#### SECTION 1. INSTALLATION

#### SECTION 2. SERVICE OVERVIEW

#### SECTION 3. BLOCK DIAGRAMS, DESCRIPTION AND FRAME WIRING

#### SECTION 4. SPARE PARTS

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# 第1章

## サービスインフォメーション

### 1-1. 補修用部品注意事項

#### 1-1-1. 補修用部品注意事項

##### (1) 安全重要部品

回路図、分解図、電気部品表中で△印付きの部品は、安全性を維持するために重要な部品である。従ってこれらの部品を交換する時には、必ず指定の部品と交換すること。

##### (2) 部品の共通化

ソニーから供給される部品はセットに実装されているものと異なることがある。

これは部品の共通化、改良等によるものである。

分解図や電気部品表には現時点での共通化された部品が記載されている。

##### (3) 部品の変更

部品の変更に関する情報は第7章「CHANGED PARTS」を参照すること。

##### (4) 部品の在庫

部品表のSP (Supply code) 欄に○で示される部品は交換頻度が低い部品で、在庫していないことがあり、納期が長くなることがある。

##### (5) コンデンサ、抵抗の単位

回路図、分解図、電気部品表中、特に明記したものを除き、下記の単位は省略されていることがある。

コンデンサ :  $\mu\text{F}$

抵抗 :  $\Omega$

#### 1-1-2. チップ部品の交換方法

##### 用意する工具

はんだコテ : 20 W程度。できれば、コテの温度を $270 \pm 10^\circ\text{C}$ にコントロールできる温度コントローラを使用すること。

編組線 : SOLDER TAULまたは同等品

ソニー部品番号: 7-641-300-81

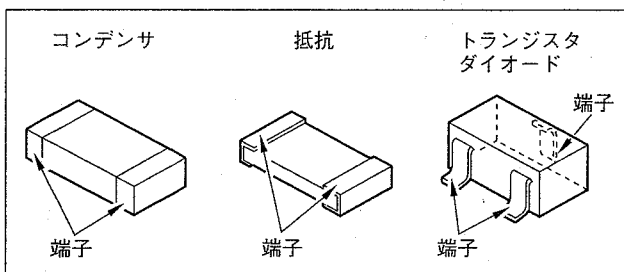
はんだ : 直径0.6 mmが望ましい。

ピンセット

##### はんだ付条件

コテ温度 :  $270 \pm 10^\circ\text{C}$

はんだ付時間 : 一端子について2秒以内にす。



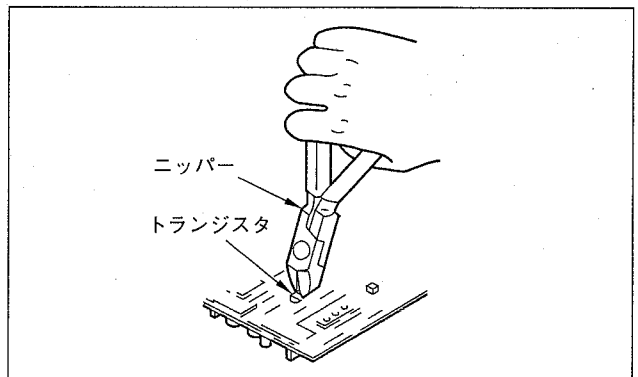
##### • 抵抗、コンデンサの交換

- (1) はんだコテの先をチップ部品の上にのせてチップ部品を加熱し、はんだが溶けた状態で横にずらす。
- (2) 取り外した部分のパターンはがれ、隣接はんだ付部のダメージ、ブリッジなどがないことを確認する。
- (3) パターンにうすく予備はんだをする。
- (4) 新しいチップ部品をパターンにのせ、両端をはんだ付けする。

注意: 取り外したチップ部品は再び使わないこと。

##### • トランジスタ、ダイオードの交換

- (1) ニッパにて部品の端子を切断する。
- (2) 切断した端子をはんだコテで取り除く。
- (3) 取り除いた部分のパターンはがれ、隣接はんだ付部のダメージ、ブリッジなどがないことを確認する。
- (4) パターンにうすく予備はんだをする。
- (5) 新しいチップ部品をパターンにのせ、端子をはんだ付けする。

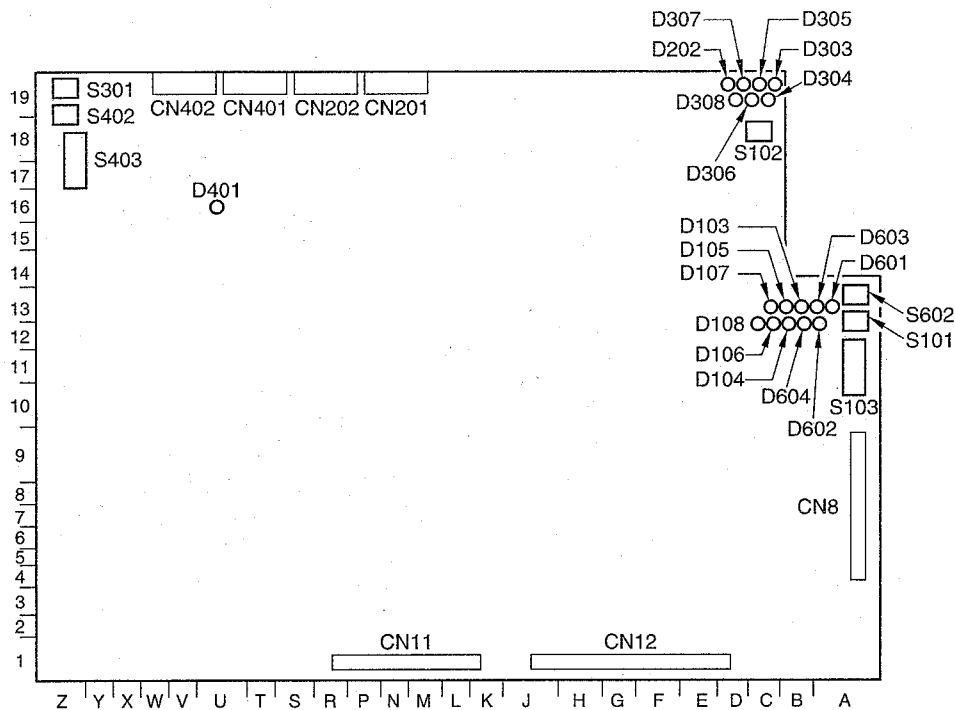


##### • ICの交換

- (1) 編組線を使って端子のはんだを取り除く。
- (2) はんだコテで加熱しながら、ピンセットなどを使って端子を1本ずつパターンから外し、ICを取り除く。
- (3) 取り除いた部分のパターンはがれ、隣接はんだ付部のダメージ、ブリッジなどがないことを確認する。
- (4) パターンにうすく予備はんだをする。
- (5) 新しいチップ部品をパターンにのせ、端子をはんだ付けする。

## 1-2. 基板内スイッチの設定

### MIX-17基板



MIX-17基板 (A面)

#### スイッチ

- S101 : RESETスイッチ  
HOST CPUのRESETスイッチ
- S102 : 使用せず
- S103 : DIPスイッチ  
工場出荷時の設定  
(この設定以外では使用しないこと)  
S103-1, 2 : ON  
S103-3 to 8 : OFF
- S301 : RESETスイッチ  
DSP CPUのRESETスイッチ
- S402 : 使用せず
- S403 : DIPスイッチ  
工場出荷時の設定  
(この設定以外では使用しないこと)  
S403-1, 2 : ON  
S403-3 to 8 : OFF
- S602 : RESETスイッチ  
DSP CPUのRESETスイッチ

#### LED

- D103 : 通常動作時点滅
- D104 : 通常動作時点滅
- D105 : 通常動作時点滅
- D106 : 通常動作時点滅
- D107 : 未使用
- D108 : 未使用
- D202 : HOST CPU HALT
- D303 : 未使用
- D304 : 未使用
- D305 : 通常動作時点滅
- D306 : 通常動作時点滅
- D307 : 未使用
- D308 : 未使用
- D401 : DSP CPU HALT
- D601 : 9PIN CPU TX ACTIVE
- D602 : 9PIN CPU RX ACTIVE
- D603, D604 :  
両方がONの時通信可能状態

### 1-3. 自己診断

ここでは、DMX-E2000に搭載されている下記自己診断プログラムについて説明する。

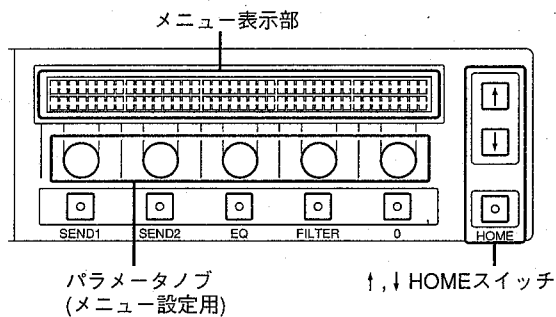
1. "LAMP CHECK" プログラム
2. "DSP CHECK" プログラム

#### プログラムの起動方法

自己診断プログラムの起動は、"SET UP MENU" のメニューを使用 (設定) して行う。

メニューの設定はコントロールパネルのメニュー操作部より行う。

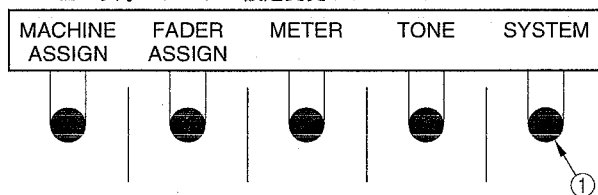
メニュー操作部



#### 手順

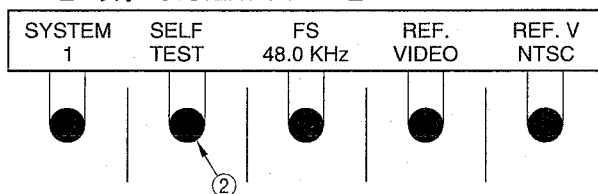
- (1) "セットアップメニュー1" の "システム設定変更サブメニュー" (下図参照) を選択する。  
(メニューの設定方法については、OPERATION MANUALの "メニュー" 及び "システムの設定" を参照)

メニュー表示: システム設定変更サブメニュー



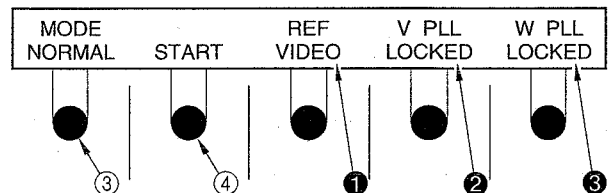
- (2) SYSTEM表示 (システム設定変更サブメニュー) に対応したパラメータノブ①を押し、"SYSTEM1サブメニュー" を選択する。

メニュー表示: SYSTEM1 サブメニュー



- (3) SELF TEST表示 (SYSTEM1サブメニュー) に対応したパラメータノブ②を押し、"SELF TESTサブメニュー" を選択する。

メニュー表示: SELF TEST サブメニュー



- (4) MODE表示 (SELF TESTサブメニュー) に対応したパラメータノブ③を押し、起動する自己診断プログラム (LAMP CHECKまたは、DSP CHECK) を選択する。  
モードは、MODE表示のパラメータノブ③を押す毎に、NORMAL → LAMP CHK (LAMP CHECK) → DSP CHK (DSP CHECK) の順で切り替わる。  
なお、このメニュー表示画面で、リファレンスの有無 ① (NO REF/REF)、ビデオPLLの状態 ② (LOCKED/UNLOCK) 及び、ワードPLLの状態 ③ (LOCKED/UNLOCK) がチェックできる。

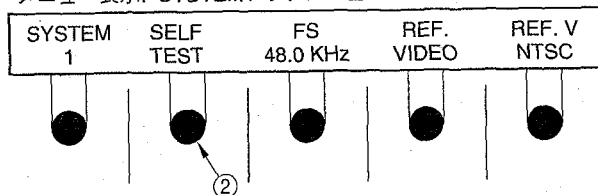
## 通常プログラムへの復帰

自己診断の終了後、通常プログラムへ復帰する場合は、以下の手順で行う。

### 手順

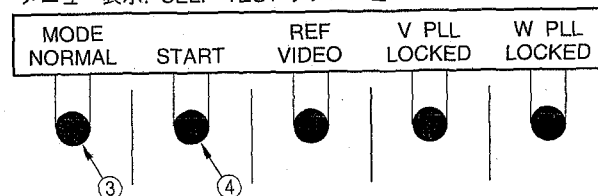
- (1) **[HOME]** スイッチを押して、"SYSTEM1サブメニュー"を選択する。

メニュー表示: SYSTEM1 サブメニュー



- (2) SELF TEST表示に対応するパラメータノブ②を押して、SELF TESTサブメニューを選択する。

メニュー表示: SELF TEST サブメニュー



- (3) MODE表示に対応するパラメータノブ③を押して、NORMALモードに設定する。
- (4) START表示に対応するパラメータノブ④を押して、通常プログラム (セットアップメニュー1) へ復帰する。

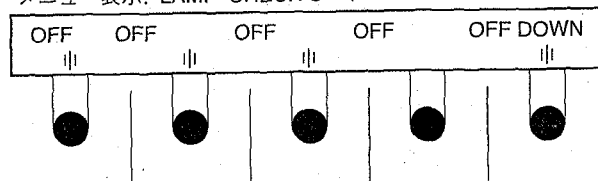
## 1-3-1. LAMP CHECKモード

このモードは、DMX-E2000のスイッチ、LED等のヒューマンインターフェースのチェックを行う。

### LAMP CHECKモードの設定

- (1) "SELF TESTサブメニュー" ("プログラムの起動方法" 参照) のMODE表示に対応するパラメータノブ③を押して、"LAMP CHECK" モードを設定する。
- (2) START表示 (SELF TESTサブメニュー) に対応するパラメータノブ④を押す。

メニュー表示: LAMP CHECKモード



- (3) 以下の "チェック方法" に従って、各チェックを行う。

### チェック方法

- ① EDITOR ENABLE, PARALLEL ENABLE, HOME,  $\phi$ , FILTER, EQ, SEND1, SEND2, LINE, MONITOR, TONE, マトリクスACCESS, SOURCEマトリクス, LINEマトリクス, MONITORマトリクス, DIM, MUTE, MONITOR SELECT, TB OUT, トークバック SEND1/SEND2, DISPLAY, LOCAL, フェーダACCESS, PFL, SHIFT, MANUAL, AUTO, START スイッチ:  
これらの単色自照スイッチは、各スイッチを押すと点灯し、もう一度押すと消灯する。
- ② PROGRAMスイッチ:  
このスイッチは、押すと赤色に点灯し、もう一度押すと消灯する。
- ③ PRESETスイッチ:  
このスイッチは、押すとアンバー色に点灯し、もう一度押すと消灯する。
- ④ チャンネル選択スイッチ:
  - PROGRAMスイッチが点灯 (赤色) 時に、このスイッチを押すと、赤色に点灯する。
  - PRESETスイッチが点灯 (アンバー色) 時に、このスイッチを押すと、アンバー色に点灯する。
  - PROGRAM及び、PRESETスイッチが両方点灯時に、このスイッチを押すとオレンジ色 (赤とアンバーの混合色) に点灯する。
- ⑤ チャンネルフェーダ:  
SHIFTスイッチが点灯している状態で、チャンネルフェーダを上下させると、チャンネルステータス表示部 (ドットマトリクスLED) にその値 (0から255まで) が表示される。

⑥ トランジションフェーダ (PSTまたは、PGMフェーダ):  
トランジションフェーダ (PSTまたはPGMフェーダ) を  
上下させると、DURATION TIME表示部 (ドットマト  
リックスLED) にその値 (0から255まで) が表示される。  
また、フェーダの上下の動きに合わせて、メーター  
LEDも上下に変化する。

⑦ MASTERフェーダ:

MASTERフェーダを上下させると、メニュー表示部 ①  
にその値 (0から255まで) が表示される。(右図参照)

⑧ DELAY, EQ/FIL, SENDインジケータLED:

DISPLAYスイッチを押す (ON) と、ACCESSスイッチ、  
LOCALスイッチ、チャンネル選択スイッチのON, OFF  
に従ってこれらのLEDが点灯し、もう一度押す (OFF)  
と消灯する。

⑨ パラメータノブ:

パラメータノブに対応するメニュー表示部 ② に、パラ  
メータノブのON/OFFと回転が表示される。  
(右図参照)

⑩ ↑、↓ スイッチ:

↑ スイッチを押すと、メニュー表示部の ③ に "UP" と  
表示される。

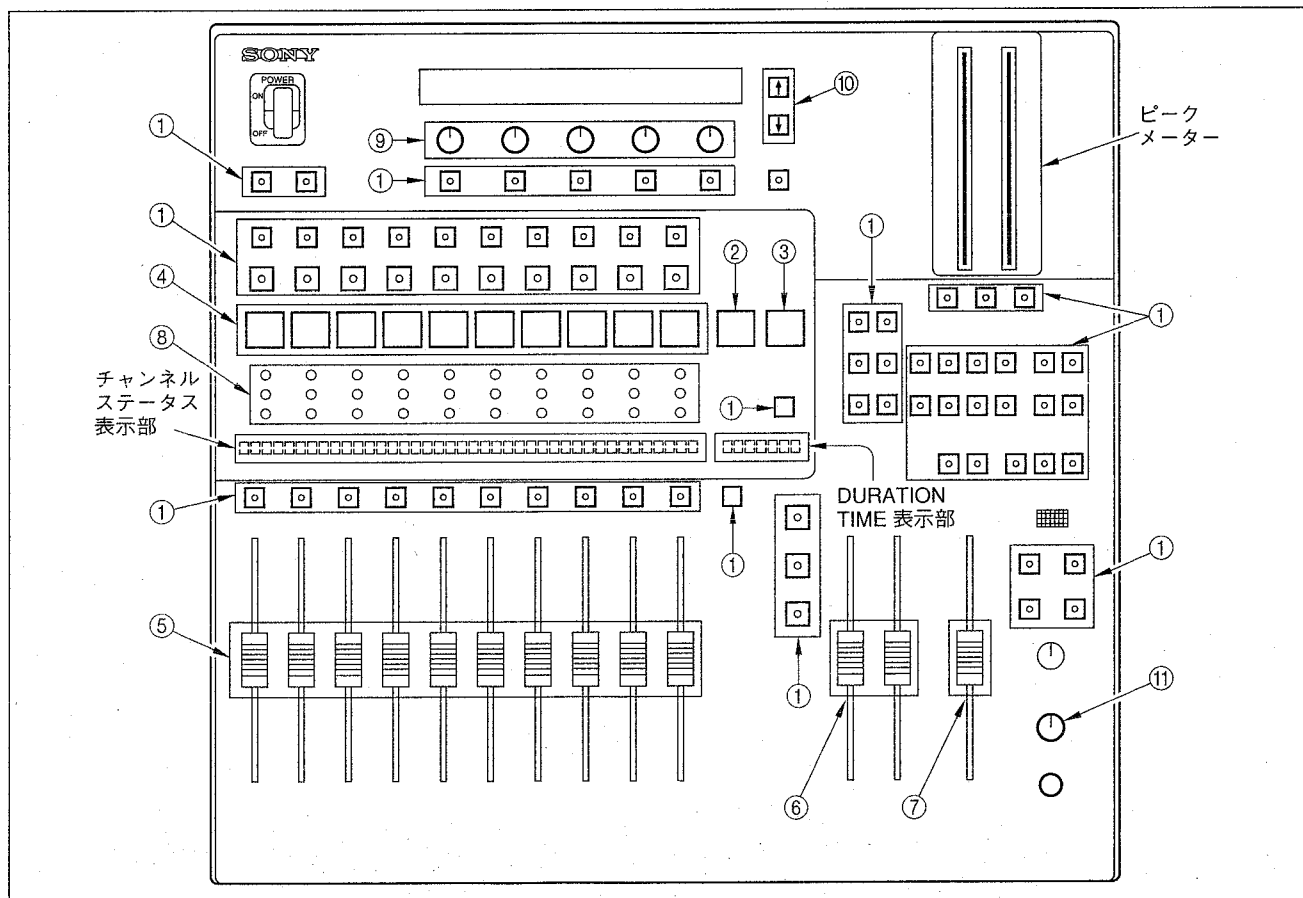
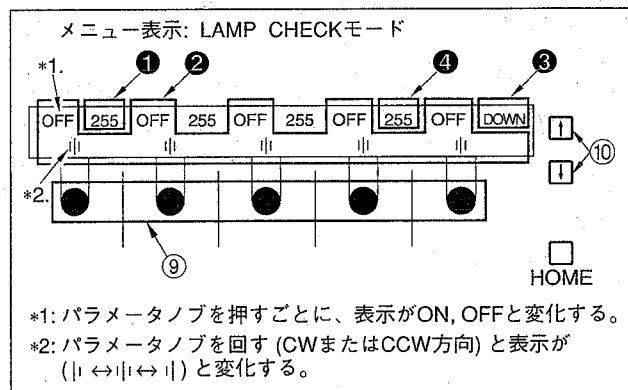
(下図参照)

↓ スイッチを押すと、メニュー表示部の ③ に  
"DOWN" と表示される。

(下図参照)

⑪ MONITOR LEVELコントロール:

このコントロールを回すと、その値 (0から255まで表  
示) がメニュー表示部 ④ に表示される。(下図参照)



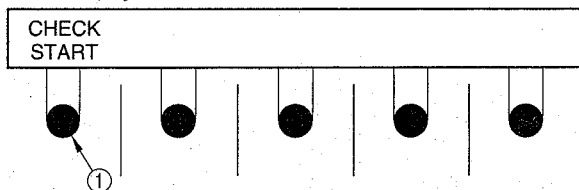
### 1-3-2. DSP CHECKモード

このモードはDMX-E2000のデジタル信号処理系のチェックを行う。

#### DSP CHECKモードの設定

- (1) "SELF TESTサブメニュー" ("プログラムの起動方法" 参照) のMODE表示に対応するパラメータノブを押して、"DSP CHECK" モードを設定する。
- (2) START表示 (SELF TESTサブメニュー) に対応するパラメータノブを押す。

メニュー表示: DSP CHECKモード

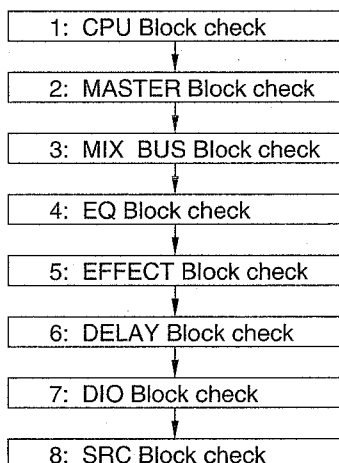


- チャンネルステータス表示部 (ドットマトリックス LED)

DMX-E2000 Self test: Push [START] Button

- (3) CHECK START表示に対応するパラメータノブ①を押すと、DSP CHECKモードのチェックが開始される。チェックは、以下のブロック (チェック項目) を順番に実行する。プログラム実行中は、診断中のブロック名が、チャンネルステータス表示部に表示される。

#### チェック項目



#### 診断結果

自己診断結果はチャンネルステータス表示部に表示される。

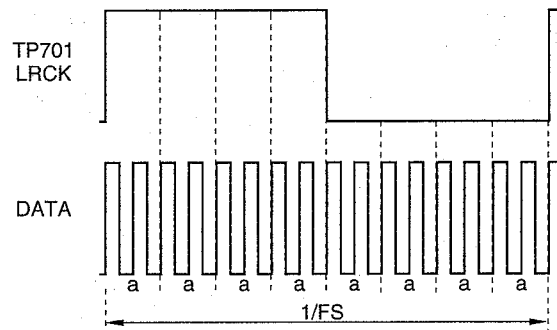
OKの場合: 各ブロックチェック項目の診断結果参照

NGの場合: 自己診断プログラムを実行中、エラーが発見された場合、そのエラー状態でプログラムは停止し、チャンネルステータス表示部にICのリファレンスNo. (複数のリファレンスNo.) が表示される。

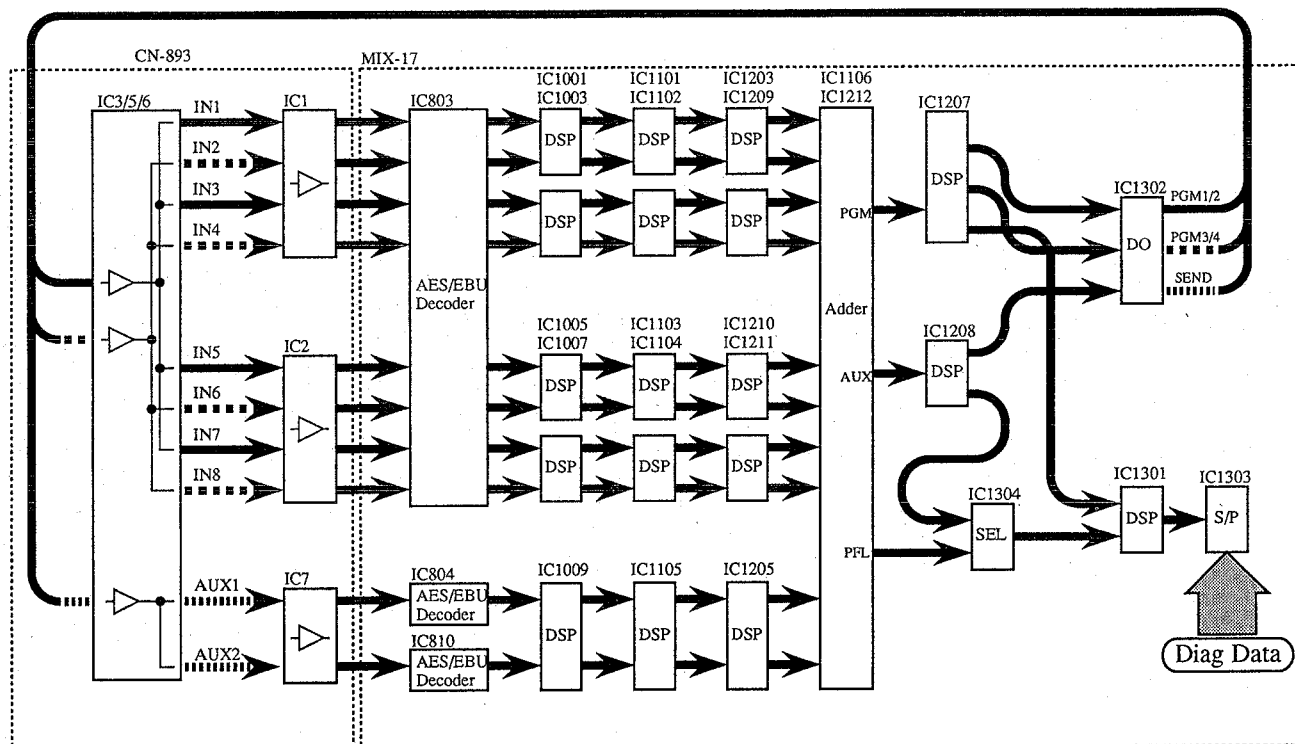
#### 処置

表示されたICの入・出力のTP端子をオシロスコープを使用してチェックする。

チェックは、TP701/MIX-17基板に出力されているLRCK信号をトリガにして行う。



以下に各チェック項目について説明する。また、自己診断時のデータの流を下图に示す。



#### 自己診断時の注意事項

1. DMX-E2000がコンソール等に埋め込まれているため、リアパネルの各入・出力コネクタ間の接続 ("7: DIOブロック" および" 8: SRCブロック" チェック時) が行えない場合は、以下のメッセージが表示された時点で、自己診断の結果は正常と判断すること。

#### チャンネルステータス表示部

Internal check: END GOOD!! [START]

この場合は、入・出力ブロックのICは、チェックしていないため、実際にNORMALモードで、各入力コネクタから入力された音が、PGM (LINE), SEND出力コネクタから出力されることを確認する。

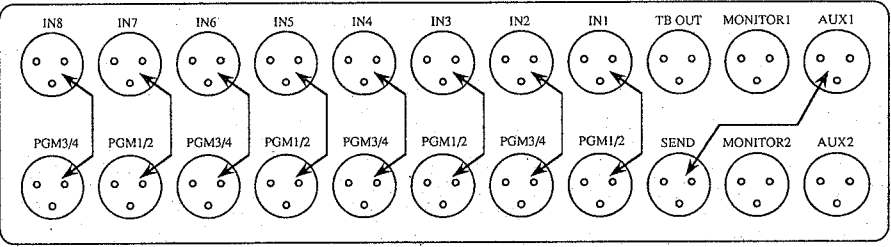
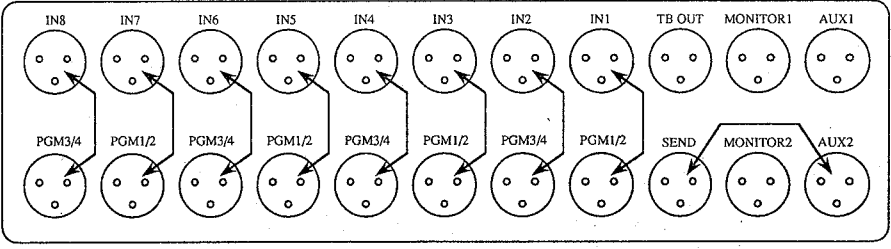
2. 自己診断中 (DSP CHECKモード時) に、モニターから大きな音出力される場合があるため、モニタースピーカをドライブしているパワーアンプのボリュームを絞っておくこと。

DMX-E2000のMONITOR VOLUMEはDigital volumeのため、このVOLUMEを絞っても、自己診断時には機能しない場合がある。



項 目	説 明
1: CPU IF Block check	<p>このテストは、DSP (IC1301) の出力データをCPUでチェックする。</p> <p>診断結果</p> <p>OKの場合: チャンネルステータス表示部に  <div>CPU IF Block check: GOOD!!</div> が表示される。  表示後、2: MASTER Block checkが実行される</p> <p>NGの場合: エラーが発生した時点で、診断プログラムは停止する。  DSP (IC1301) の出力データをオシロスコープでチェックして、データを確認する。</p>
2: MASTAR Block check	<p>このテストは、1: CPU IF Block checkが正常であれば実行される。  テストはMASTERブロックのDSP (IC1207, 1208) の出力データをCPUでチェックする。  出力データのチェックは、IC1207 → IC1208の順に行われる。</p> <p>診断結果</p> <p>OKの場合: チャンネルステータス表示部に  <div>MASTER Block check: GOOD!!</div> が表示される。  表示後、3: MIX BUS Block checkが実行される。</p> <p>NGの場合: エラーが発生した時点で、診断プログラムは停止し、チャンネルステータス表示部にICのリファレンスNo. が表示される。  表示されたICの入・出力をオシロスコープを使用してチェックする。  チェックは、"aaaa aaaaH (Hex)" または、"5555 5555H (Hex)" 以外のデータを出力しているICを見つけることで行う。</p>
3: MIX BUS check	<p>このテストは、2: MASTER Block checkが正常であれば実行される。  テストは、MIXブロックのDSP (IC1203, 1209, 1210, 1211, 1205) の出力データをCPUでチェックする。  出力データのチェックは、IC1203 → IC1209 → IC1210 → IC1211 → IC1205の順に行われる。</p> <p>診断結果</p> <p>OKの場合: チャンネルステータス表示部に  <div>MIX BUS Block check: GOOD!!</div> が表示される。  表示後、4: EQ Block checkが実行される。</p> <p>NGの場合: "2: MASTER Block check" に同じ</p>

項 目	説 明
4: EQ Block check	<p>このテストは、3: MIX BUS Block checkが正常であれば実行される。  テストは、MIXブロックのDSP (IC1101, 1102, 1103, 1104, 1105) の出力データをCPUでチェックする。  出力データのチェックは、IC1101 → IC1102 → IC1103 → IC1104 → IC1105の順に行われる。</p> <p>診断結果  OKの場合: チャンネルステータス表示部に  <div style="border: 1px solid black; padding: 2px; display: inline-block;">EQ Block check: GOOD!!</div>  が表示される。  表示後、5: EFFECT Block checkが実行される。  NGの場合: "2: MASTER Block check" に同じ</p>
5: EFFECT Block check	<p>このテストは、4: EQ Block ckeckが正常であれば実行される。  テストは、EFFECTブロックのDSP (IC1001, 1003, 1005, 1007, 1009) の出力データをCPUでチェックする。  出力データのチェックは、IC1001 → IC1003 → IC1005 → IC1007 → IC1009の順に行われる。</p> <p>診断結果  OKの場合: チャンネルステータス表示部に  <div style="border: 1px solid black; padding: 2px; display: inline-block;">EFFECT Block check: GOOD!!</div>  が表示される。  表示後、6: DELAY Block checkが実行される。  NGの場合: "2: MASTER Block check" に同じ</p>
6: DELAY Block check	<p>このテストは "5: EFFECT Block check" が正常であれば実行される。  テストは、DSP (IC1001, 1003, 1005, 1007, 1009) に接続されているD. RAM (IC1002, 1004, 1006, 1008, 1010) について行う。  チェックは、IC1002 → IC1004 → IC1006 → IC1008 → IC1010の順に行われる。</p> <p>診断結果  OKの場合: チャンネルステータス表示部に  <div style="border: 1px solid black; padding: 2px; display: inline-block;">Internal check: END GOOD!! [START]</div>  が表示され、診断プログラムが停止する。  NGの場合: "2:MASTER Block check"に同じ</p>
7: DIO Block check 8: SRC Block check	<p>このテストは、入・出力ブロックも含めて各ブロックの信号経路をCPUでチェックする。  7: DIO Block checkでは、Sampling Rate Converterブロックは経由せず、8: SRC Block checkでは、Sampling Rate Converterブロックを経由する。  チェックは以下のように行う。</p> <p>7: DIO Block check  (1) 6: DELAYブロックのチェックが終了すると、診断プログラムはチャンネルステータス表示部に下記メッセージを表示して停止する。  チャンネルステータス表示部  <div style="border: 1px solid black; padding: 2px; display: inline-block;">Internal check: END GOOD!! [START]</div></p> <p style="text-align: right;">(続く)</p>

項 目	説 明
	<p>(2) CHECK START表示に対応したパラメータノブを押す。  チャンネルステータス表示部に  CONNECT: OUTPUT-INPUT SEND-AUX1 [START]</p> <p>(3) 表示にしたがって、リアパネルの入・出力コネクタ間を下図のように接続する。  接続ケーブル: デジタルオーディオ用接続ケーブル(SONY ECD3C/10C/30C)  または相当品</p>  <p>(4) 接続後、CHECK START表示に対応したパラメータノブを押す。  チェックは、IN1に入力したデータから順にIN1 → IN2 → IN3 → IN4 → IN5 → IN6 → IN7 → IN8 → AUX1まで行われる。</p> <p>診断結果</p> <p>OKの場合: チャンネルステータス表示部に  CONNECT: OUTPUT-INPUT SEND-AUX2 [START]  を表示して、診断プログラムは停止する。</p> <p>NGの場合: エラーが発生した時点で、診断プログラムは停止し、チャンネルステータス表示部にICのリファレンスNo. が表示される。  表示されたICの入・出力をオシロスコープを使用してチェックする。  チェックは、"aaaa aa00H (Hex)" または "5555 5500H (Hex)" 以外のデータを出力しているICを見つけることで行う。</p> <p>8: SRC Block check</p> <p>(1) 7: DIO Block check終了後、診断プログラムはチャンネルステータス表示部に下記メッセージを表示して停止する。  チャンネル表示部  CONNECT: OUTPUT-INPUT SEND-AUX2 [START]</p> <p>(2) 表示に従って、AUX1とSENDコネクタ間の接続ケーブルを外し、AUX2とSENDコネクタ間を接続する。</p> 

(続く)

項 目	説 明
	<p>(3) 接続後、CHECK START表示に対応したパラメータノブを押す。 AUX2の入力チェックが行われる。</p> <p>診断結果</p> <p>OKの場合: チャンネルステータス表示部に</p> <div data-bbox="632 533 1144 562" style="border: 1px solid black; padding: 2px; display: inline-block;">DMX-E2000 Self test: END GOOD!!</div> <p>と表示され、全ての診断プログラムは終了する。</p> <p>NGの場合: エラーが発生した時点で、診断プログラムは停止し、チャンネルステータス表示部にICのリファレンスNo. が表示される。</p> <p>表示されたICの入・出力をオシロスコープを使用して、チェックする。</p> <p>チェックは、"aaXX XXXXH (Hex)" または "55XX XXXXH (Hex)" 以外のデータを出力しているICを見つけることで行う。</p> <p>注) X: 任意の値</p>

## 第2章 電気調整

本章では、修理および保守を行う際に必要な下記基板の電気調整について述べる。

### MIX-17基板

#### 2-1. 調整準備

##### 2-1-1. 使用機器、治工具

###### 使用機器

名称	主な仕様	機器名
周波数カウンタ	有効桁数：6桁以上	HP5315A/Hewlett Packard または相当品
オーディオレベルメータ (オーディオアナライザ)	周波数：10 Hz～100 kHz レンジ：～30 dBs バランス入力型	ST-1710A/SOUND TECHNOLOGY (オーディオアナライザ) または相当品

###### 治工具

名称	部品番号
75 Ω終端器	1-695-542-11
調整ドライバ (2.0 mm)	7-770-731-03

#### 2-2. 調整 (MIX-17基板)

注意: 本調整は、DMX-E2000の "SYSTEM MENU"、  
"TONE MENU" を使用して行う。

MENUの設定方法は、オペレーションマニュアルを  
参照すること。

##### スイッチ、コントロール設定

###### コントロールパネル部

調整のためのスイッチ、コントロールの初期設定はなし。

###### MIX-17基板

S101: RESETスイッチ ..... OFF

S102: -

S103: DIPスイッチ

S103-1, 2 ..... ON

S103-3 to 8 ..... OFF

S301: RESETスイッチ ..... OFF

S402: -

S403: DIPスイッチ

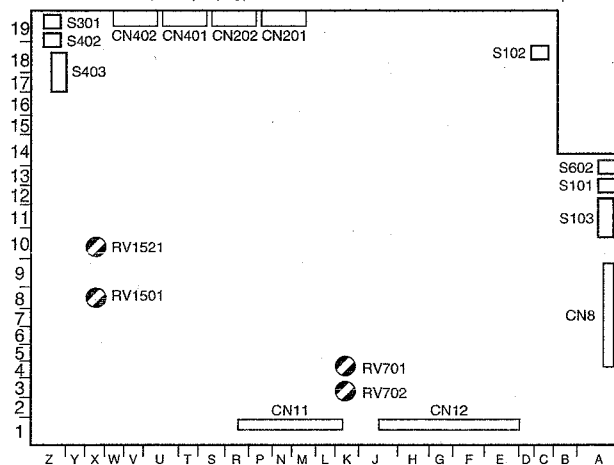
S403-1, 2 ..... ON

S403-3 to 8 ..... OFF

S602: RESETスイッチ ..... OFF

##### 調整箇所

###### MIX-17基板 (A面)



### 2-2-1. PLL周波数調整

#### 使用機器

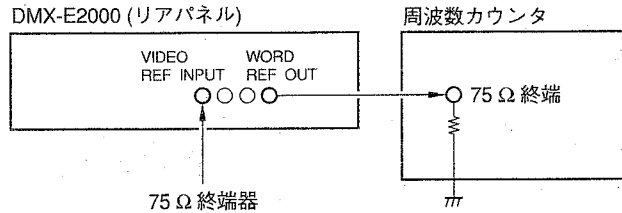
周波数カウンタ

#### 治工具

75 Ω終端器

注意: VIDEO REF INPUT端子の接続ケーブルを外し、75 Ω終端器を接続する。

#### 接続



#### 調整

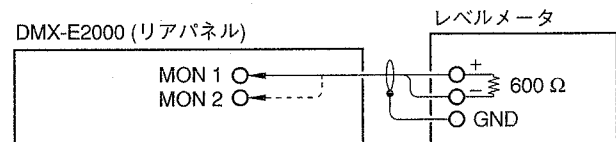
調整時の状態	規格	調整箇所
<b>ステップ1</b> • SYSTEM MENUを下記のように設定する。 Fs : 48 kHz REF. : WORD REF. V: -	WORD OUT端子サンプリング周波数 = 48000±1 Hz	●RV701/MIX-17基板 (K4)
<b>ステップ2</b> • SYSTEM MENUを下記のように設定する。 Fs : 44.1 kHz REF. : WORD REF. V: -	WORD OUT端子サンプリング周波数 = 441000±1 Hz	●RV702/MIX-17基板 (K3)

### 2-2-2. モニターレベル調整

#### 使用機器

レベルメータ (オーディオアナライザ)

#### 接続



#### 調整

調整時の状態	規格	調整箇所
<b>ステップ1</b> • レベルメータをMONITOR 1端子に接続する。 • TONE MENUを選択し、下記のように設定する。 LEVEL : -20 dB FREQ : 1 kHz MONI OUT: MONITOR出力 ON	MONITOR 1出力レベル = +4 dBs±0.1 dB	●RV1501/MIX-17基板 (X, 8)
<b>ステップ2</b> • レベルメータをMONITOR 2端子に接続する。 • TONE MENUを選択し、下記のように設定する。 LEVEL : -20 dB FREQ : 1 kHz MONI OUT: MONITOR出力 ON	MONITOR 2出力レベル = +4 dBs±0.1 dB	●RV1521/MIX-17基板 (X, 10)

# SECTION 1

## SERVICE OVERVIEW

### 1-1. NOTES ON REPAIR PARTS

#### 1-1-1. Notes on Repair Parts

##### (1) Safety Related Components Warning

The  $\Delta$  marked components on the schematic diagrams, exploded views and electrical spare parts list are critical to safety. Replace only with the same components as specified.

##### (2) Standardization of Parts

Replacement parts supplied from the Sony Parts Center will sometimes have a different shape and outside view from the parts which are used in the unit.

This is due to accommodating improved parts and/or engineering changes or standardization of genuine parts.

This manual's exploded views and electrical spare parts list indicate the part numbers of current standardized genuine parts.

##### (3) Change of Parts

Regarding engineering parts changes, refer to section 17 "Changed Parts."

##### (4) Stock of Parts

The parts marked with "s" in the SP (Supply Code) column of the exploded views and electrical spare parts list are normally stocked for replacement purposes.

The parts marked with "o" in the SP column are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional time for delivery.

##### (5) Units for Capacitors, Inductors and Resistors

The following units are assumed in schematic diagrams, electrical parts list and exploded views unless otherwise specified.

Capacitors :  $\mu\text{F}$

Resistors :  $\Omega$

#### 1-1-2. Replacement Procedure for Chip Parts

##### Required Tools:

Soldering iron : 20W

If possible, use a soldering-iron tip heat-controller set to  $270 \pm 10^\circ\text{C}$ .

Braided wire (Desoldering metal braid) :

SOLDER TAUL or equivalent

Sony part No. 7-641-300-81

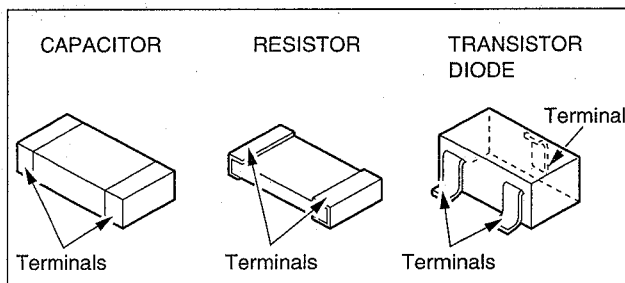
Solder : 0.6 mm dia. is recommended.

Tweezers

##### Soldering Conditions:

Soldering iron temperature :  $270 \pm 10^\circ\text{C}$

Soldering time : 2 seconds per pin



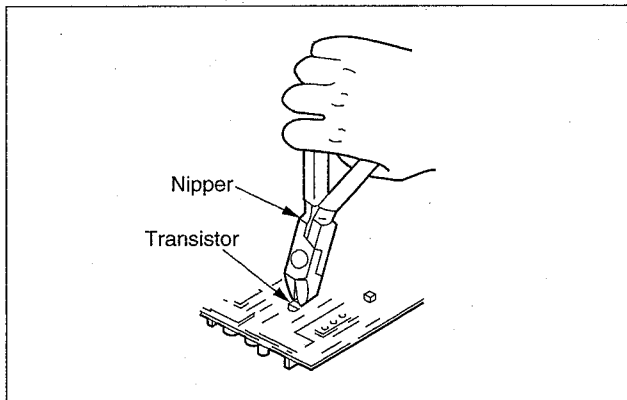
##### Replacement of Resistor and Capacitor

- (1) Place the soldering-iron tip onto the chip part and heat it up until the solder is melted. When the solder is melted, slide the chip part aside.
- (2) Make sure that there is no pattern peeling, damage and/or bridge around the desoldering position.
- (3) After removing the chip part, presolder the area, in which the new chip part is to be placed, with a thin layer of solder.
- (4) Place new chip part in the desired position and solder both ends.

**Note:** Do not use a chip part again once it has been removed.

### Transistor and Diode Replacement

- (1) Cut the terminals of the chip part with a nipper.
- (2) Remove the cut leads.
- (3) Make sure that there is no pattern peeling, damage and/or bridges around the desoldering positions.
- (4) After removing the chip part, presolder the area, in which the new chip part is to be placed, with a thin layer of solder.
- (5) Place new chip part in the desired position and solder the terminals.



### IC Replacement

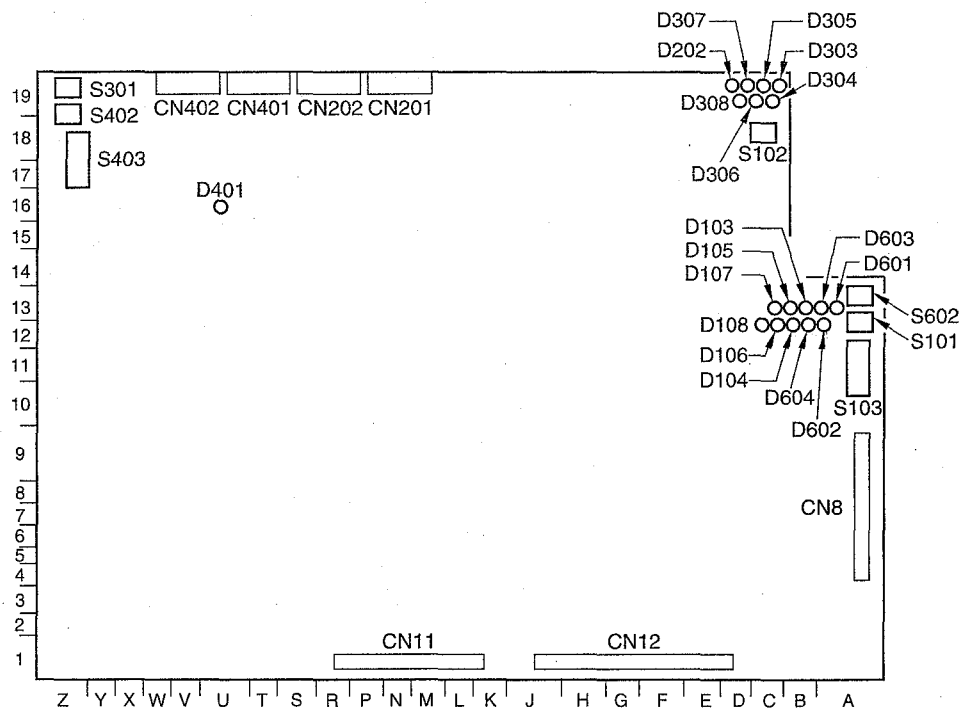
- (1) Using the braided wire, "SOLDER TAUL" Sony Part No. 7-641-300-81, remove the solder around the pins of the IC-chip to be removed.
- (2) While heating up the pins, remove the pins one by one using sharp-pointed tweezers.
- (3) Make sure that there is no pattern peeling, damage and/or bridges around the desoldering positions.
- (4) After removing the chip part, presolder the area, in which the new chip part is to be placed, with a thin layer of solder.
- (5) Place new chip part in the desired position and solder the pins.

**NOTE:** Once a chip part has been removed never use it again.



## 1-2. SWITCHES SETTING

### MIX-17 Board



MIX-17 Board (A SIDE)

#### Switch

S101: RESET switch  
HOST CPU RESET switch

S102: Not used

S103: DIP switch

#### Factory Setting

(Do not use of the other setting)

S103-1, 2 : ON

S103-3 to 8: OFF

S301: RESET switch  
DSP CPU RESET switch

S402: Not use

S403: DIP switch

#### Factory Setting

(Do not use of the other setting)

S403-1, 2 : ON

S403-3 to 8: OFF

S602: RESET switch  
DSP CPU RESET switch

#### LED

D103: During normal operation blinks

D104: During normal operation blinks

D105: During normal operation blinks

D106: During normal operation blinks

D107: Not use

D108: Not use

D202: HOST CPU HALT

D303: Not use

D304: Not use

D305: During normal operation blinks

D306: During normal operation blinks

D307: Not use

D308: Not use

D401: DSP CPU HALT

D601: 9PIN CPU TX ACTIVE

D602: 9PIN CPU RX ACTIVE

D603, D604 :

Both set to ON, the communication is possible.

### 1-3. SELF-DIAGNOSTICS

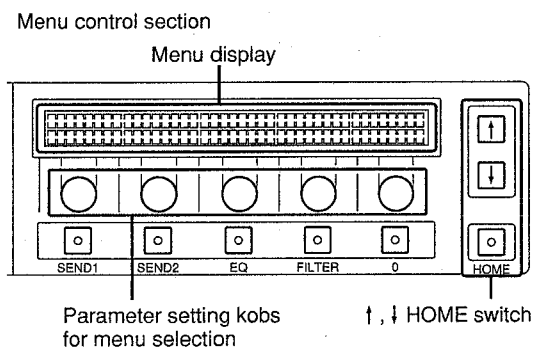
This section describes the self-diagnostics program installed in the DMX-E2000.

1. "LAMP CHECK" program
2. "DSP CHECK" program

#### How to start the self-diagnostics program

The self diagnosis program is started using (setting) the "SET UP MENU".

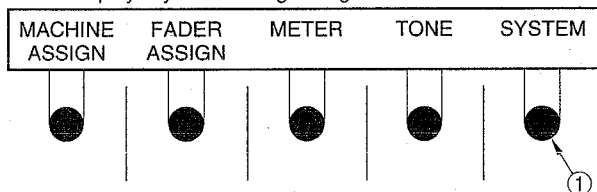
Use the menu function of the control panel to activate the menu.



#### Procedure

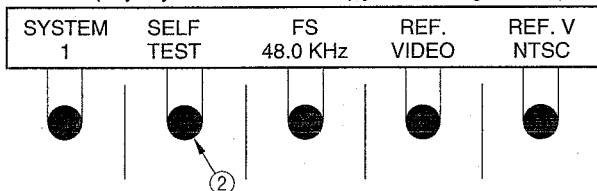
- (1) From "Set-up menu 1", select the system setting change sub-menu (as shown below).  
(For the menu setting procedure, refer to the OPERATION MANUAL "Menus" and "System Settings".)

Menu display: System setting change sub-menu



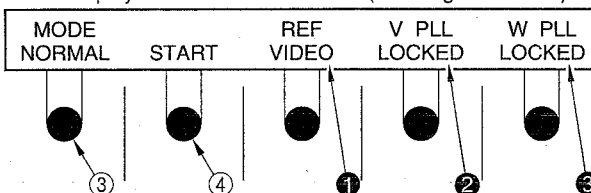
- (2) Press the SYSTEM knob ① (system setting change sub-menu) to select "SYSTEM 1 Sub-menu".

Menu display: System 1 Sub-menu (system setting menu 1)



- (3) Press the SELF TEST knob ② (SYSTEM 1 Sub-menu) to select the "SELF TEST Sub-menu".

Menu display: SELF TEST sub-menu (self-diagnostics test)



- (4) Press the MODE knob ③ (SELF TEST sub-menu) to select the self-diagnostics program (LAMP CHECK or DSP CHECK) to be started. Every time the MODE knob ③ is pressed the mode advances in the order of NORMAL → LAMP CHK (LAMP CHECK) → DSP CHK (DSP CHECK).

From this menu, the following can be checked:  
Reference signal exists/not exist ① (NO REF/REF),  
Video PLL status ② (LOCKED/UNLOCK), and  
Word PLL status ③ (LOCKED/UNLOCK).

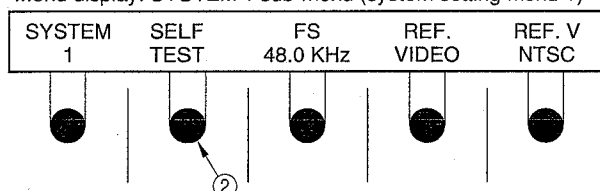
### Returning to the Normal Run Program

After completing the self-diagnostics, return to the normal run program as followings.

#### Procedure

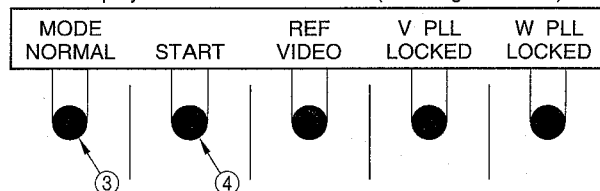
- (1) Press the HOME switch to select the "SYSTEM 1 sub-menu".

Menu display: SYSTEM 1 sub-menu (system setting menu 1)



- (2) Press the SELF TEST knob ② to select the SELF TEST sub-menu.

Menu display: SELF TEST sub-menu (self-diagnostic test)



- (3) Press the MODE knob ③ to set the NORMAL mode.
- (4) Press the START knob ④ to return to the normal run program (Set-up menu 1).

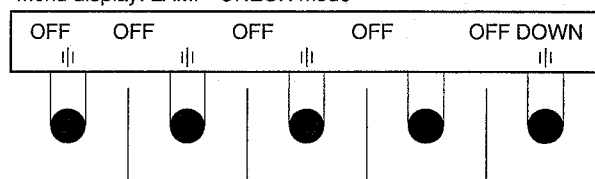
### 1-3-1. LAMP CHECK Mode

In this mode, the human interface block such as the switches and LEDs of the DMX-E2000 can be checked.

#### How to set the LAMP CHECK mode

- (1) Open the "SELF TEST Sub-menu" (refer to the previous section "How to start the self-diagnostics program") and press the MODE knob ③ to set the "LAMP CHECK" mode.
- (2) Press the START knob ④ (SELF TEST Sub-menu).

Menu display: LAMP CHECK mode



- (3) Follow the check procedure shown below.

#### Check procedure

- ① The following single color, self-illuminating switches will turn on when pressed once, and will turn off when pressed again:

**EDITOR ENABLE, PARALLEL ENABLE, HOME,  $\phi$ , FILTER, EQ, SEND1, SEND2, LINE, MONITOR, TONE, Matrix ACCESS, SOURCE Matrix, LINE Matrix, MONITOR Matrix, DIM, MUTE, MONITOR SELECT, TB OUT, Talkback SEND1/SEND2, DISPLAY, LOCAL, Fader ACCESS, PFL, SHIFT, MANUAL, AUTO, and START switches**

- ② **PROGRAM switch**

This switch will light in red when pressed once, and will turn off when pressed again.

- ③ **PRESET switch**

This switch will light in amber when pressed once, and will turn off when pressed again.

- ④ **Channel select switch**

- When this switch is pressed while the PROGRAM switch is lit (red), it will light in red.
- When this switch is pressed while the PRESET switch is lit (amber), it will light in amber.
- When this switch is pressed while both the PROGRAM and PRESET switches are lit, it will light in orange (mixture of red and amber).

- ⑤ **Channel fader**

When the channel fader is moved up and down while the SHIFT switch is lit, the channel status display area (dot matrix LEDs) shows the value (from 0 to 255).

⑥ **Transition fader (PST or PGM fader)**

When the transition fader (PST or PGM) is moved up and down, the DURATION TIME display area (dot matrix LEDs) shows the value (from 0 to 255). The meter LEDs will change the display up or down as the fader is moved.

⑦ **MASTER fader**

When the MASTER fader is moved up and down, the menu display area ① shows the value (from 0 to 255). (See the figure on the right.)

⑧ **DELAY, EQ/FIL, SEND indicator LEDs**

When the DISPLAY switch is pressed (ON), these LEDs light according to ON or OFF of the ACCESS switch, LOCAL switch and Channel select switch. The LEDs will go off when pressed again (OFF).

⑨ **Parameter setting knob**

The menu display area ② displays ON or OFF and the rotation of the parameter setting knob as the knob is turned. (See the figure on the right.)

⑩ **↑↓ switch**

When the ↑ switch is pressed, "UP" is displayed on the menu display area ③.

(See the figure below.)

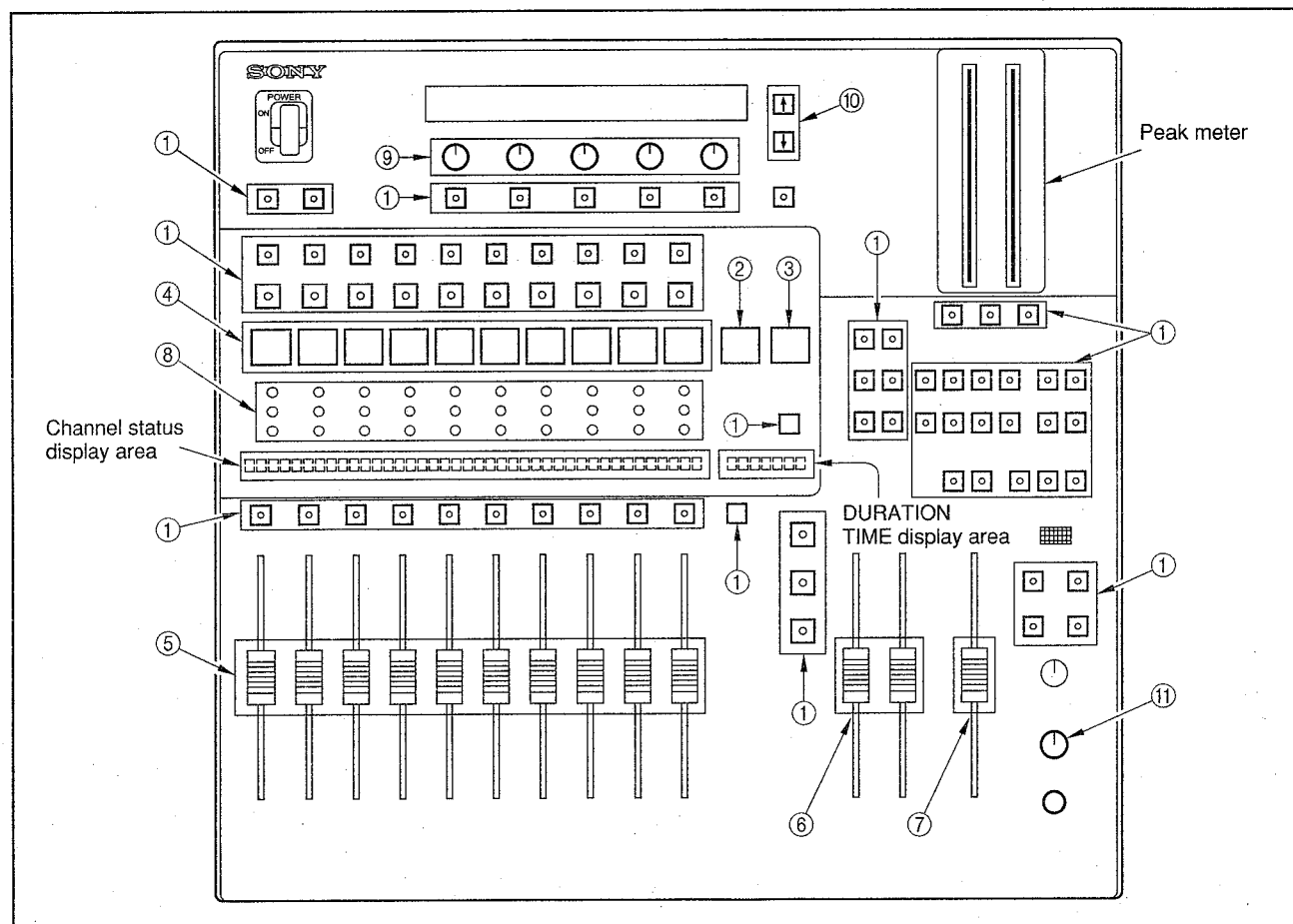
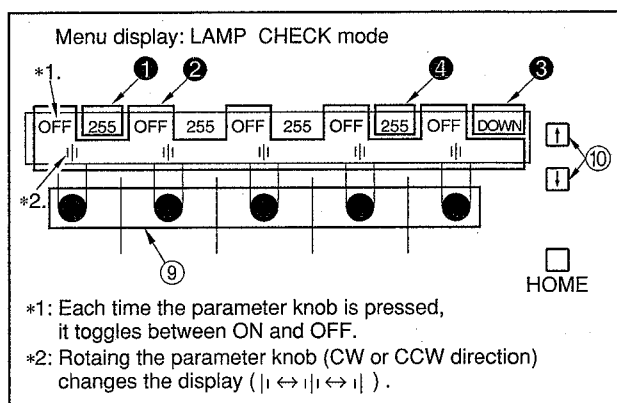
When the ↓ switch is pressed, "DOWN" is displayed on the menu display area ③.

(See the figure below.)

⑪ **MONITOR LEVEL control**

When this control is changed, the menu display area ④ shows the value (from 0 to 255).

(See the figure below.)



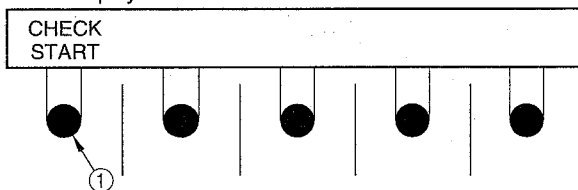
### 1-3-2. DSP CHECK Mode

Use this mode to check the digital signal processing circuit.

#### How to set the DSP CHECK mode

- (1) Press the MODE knob (SELF TEST sub-menu) (refer to the section "How to start the self-diagnostics"), to set the "DSP CHECK" mode.
- (2) Press the START knob (SELF TEST Sub-menu).

Menu display: DSP CHECK Mode



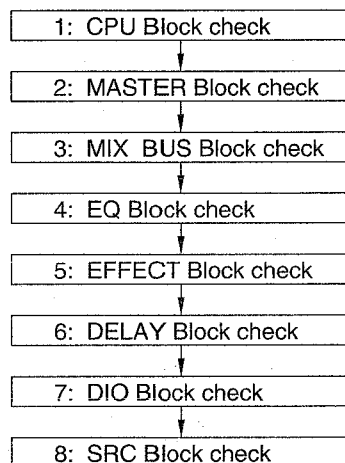
- Channel status display area (dot matrix LEDs)

DMX-E2000 Self test: Push [START] Button

- (3) Press the CHECK START knob ① to start checking in DSP CHECK mode. The following blocks (check items) are checked in order.

While the program is running, the name of the block being checked is shown on the channel status display area.

#### Check item



#### Diagnostics result

The results of the self-diagnostics are shown on the channel status display area.

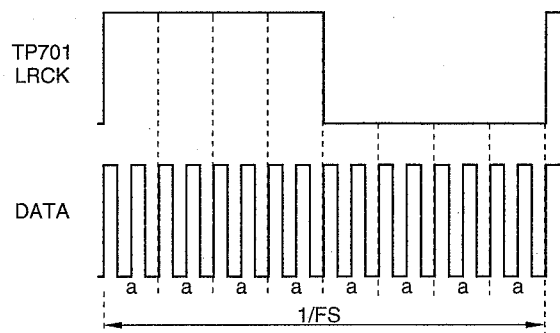
**If the result is OK:** Refer to the following paragraphs describing the check items and the diagnostics results of respective blocks.

**If the result is NG:** If an error is diagnosed by the self-diagnostics program, the program is stopped with the error status, and the IC reference number (including more than two reference numbers) is displayed on the channel status display area.

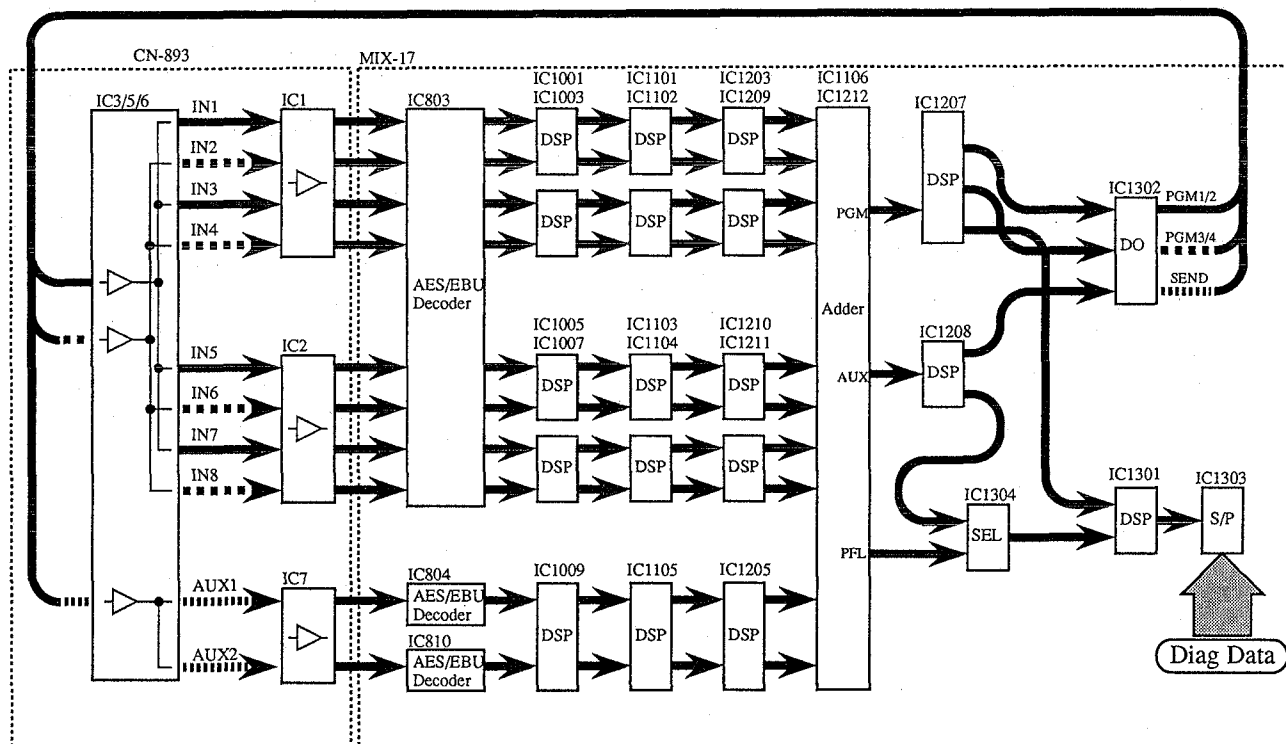
#### Remedy

Check the input and output TP pins of the displayed IC using an oscilloscope.

Trigger the oscilloscope with an LRCK signal on the TP701/MIX-17 board.



The check items and data flow in the self-diagnostics program are shown below.



### Precautions on self-diagnostics

1. Because the DMX-2000 is fitted to a console, it is very difficult to check the signal paths between the input and output connectors on the rear panel (items number "7: DIO block check" and "8: SRC block check"). The machine is thus diagnosed as normal if the following message is displayed.

#### Channel status display area

Internal check: END GOOD!! [START]

In this case, the actual ICs in the input and output blocks are not checked. Check that the sound input to the respective input connectors is actually output from the PGM (LINE) and SEND output connector in NORMAL mode.

2. A fairly loud sound may come from the monitor speaker during self diagnostics (in DSP CHECK mode). Turn down the sound volume of the power amplifier which drives the monitor speaker. The MONITOR VOLUME control of DMX-E2000 cannot turn down the sound volume during self diagnostics because it is the digital volume.

Item	Description
1: CPU IF Block check	<p>The DSP (IC1301) output data is checked by the CPU.</p> <p><b>Diagnostics result</b>            If OK: The channel status display area shows:  <div data-bbox="579 472 1094 501" style="border: 1px solid black; padding: 2px;">CPU IF Block check: GOOD!!</div>            After this is displayed, "2: MASTER Block check" is executed.            If NG: The diagnosis program stops at the step where the error occurred.            Observe the DSP (IC1301) output data with an oscilloscope and check the data.</p>
2: MASTER Block check	<p>This test can be started when the above "1: CPU IF Block check" is OK.            The DSPs (IC1207, IC1208) output data of the MASTER block are checked by the CPU.            The output data of IC1207 is checked first, then the data of IC1208 is checked.</p> <p><b>Diagnostics result</b>            If OK: The channel status display area shows:  <div data-bbox="579 815 1086 844" style="border: 1px solid black; padding: 2px;">MASTER Block check: GOOD!!</div>            After this is displayed, "3: MIX BUS Block check" is executed.            If NG: The diagnostics program stops at the step where the error occurred. The IC reference numbers are indicated on the channel status display area.            Check the input and output data of the indicated ICs with an oscilloscope. and look for the IC outputting data other than "aaaa aaaah (Hex)" or "5555 5555H (Hex)" since this IC is defective.</p>
3: MIX BUS Block check	<p>This test can be started if the above "2: MASTER Block check" is OK.            The DSPs (IC1203, IC1209, IC1210, IC1211, IC1205) output data of the MIX block are checked by the CPU.            The check is executed in the order of IC1203 → IC1209 → IC1210 → IC1211 → IC1205.</p> <p><b>Diagnostics result</b>            If OK: The channel status display area shows:  <div data-bbox="579 1283 1086 1312" style="border: 1px solid black; padding: 2px;">MIX BUS Block check: GOOD!!</div>            After this is displayed, "4: EQ Block check" is executed.            If NG: Same as for the previous "2: MASTER Block check".</p>
4: EQ Block check	<p>This test can be started if the above "3: MIX BUS Block check" is OK.            The DSPs (IC1101, IC1102, IC1103, IC1104, IC1105) output data of the EQ block are checked by the CPU.            The check is executed in the order of IC1101 → IC1102 → IC1103 → IC1104 → IC1105.</p> <p><b>Diagnostics result</b>            If OK: The channel status display area shows:  <div data-bbox="579 1626 1086 1655" style="border: 1px solid black; padding: 2px;">EQ Block check: GOOD!!</div>            After this is displayed, "5: EFFECT Block check" is executed.            If NG: Same as for the previous "2: MASTER Block check".</p>

Item	Description
5: EFFECT Block check	<p>This test can be started if the above "4: EQ Block check" is OK.  The DSPs (IC1001, IC1003, IC1005, IC1007, IC1009) output data of the EFFECT block are checked by the CPU.  The check is executed in the order of IC1001 → IC1003 → IC1005 → IC1007 → IC1009.</p> <p><b>Diagnostics result</b>  If OK: The channel status display area shows:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">EFFECT Block check: GOOD!!</div>  After this is displayed, "6: Delay Block check" is executed.  If NG: Same as for the previous "2: MASTER Block check".</p>
6: Delay Block check.	<p>This test can be started if the above "5: EFFECT Block check" is OK.  The D. RAMs (IC1002, IC1004, IC1006, IC1008, IC1010) connected to the DSPs (IC1001, IC1003, IC1005, IC1007, IC1009) are checked by this test.  The check is executed in the order of IC1002 → IC1004 → IC1006 → IC1008 → IC1010.</p> <p><b>Diagnostics result</b>  If OK: The channel status display area shows the following message and the diagnosis program terminates:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">Internal check: END GOOD!! [START]</div>  If NG: Same as for the previous "2: MASTER Block check".</p>
7: DIO Block check 8: SRC Block check	<p>This test checks the signal paths in the respective signal processing blocks including input and output circuits.  The test "7: DIO Block check" bypasses the Sampling Rate Converter block while the test "8: SRC Block check" checks the Sampling Rate Converter block.</p> <p>7: DIO Block check</p> <ol style="list-style-type: none"> <li>(1) When "6: DELAY block check" is completed, the self diagnostics program terminates with the following message displayed on the channel status display area.  Channel status display area shows:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">Internal check: END GOOD!! [START]</div></li> <li>(2) Press the parameter knob corresponding to the CHECK START display.  The channel status display area shows:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">CONNECT: OUTPUT-INPUT SEND-AUX1 [START]</div></li> <li>(3) Connect cables between input and output connector on the rear panel as shown below.  Connecting cable: Digital audio connection cable (SONY ECD3C/10C/30C) or equivalent.</li> </ol> <div style="text-align: center;"> </div>

(to see next page)



Item	Description
	<p>(4) After connection, press the parameter setting knob corresponding to the CHECK START display. The check is executed in the order IN1 → IN2 → IN3 → IN4 → IN5 → IN6 → IN7 → IN8 → AUX1, starting from the data input to IN1.</p> <p><b>Diagnostics result</b></p> <p>If OK: The channel status display area shows the following message and the diagnostics program terminates:  <div data-bbox="571 591 1094 618" style="border: 1px solid black; padding: 2px;">CONNECT: OUTPUT-INPUT SEND-AUX2 [START]</div> </p> <p>If NG: The diagnostics program stops at the step where the error occurred. The IC reference numbers are indicated on the channel status display area. Check the input and output data of the indicated ICs with an oscilloscope, and look for the IC outputting data other than "aaaa aa00H (Hex)" or "5555 5500H (Hex)" since this IC is defective.</p> <p>8: SRC Block check</p> <p>(1) When "7: DIO block check" is completed, the self-diagnostics program terminates with the following message displayed on the channel status display area. Channel status display area shows:  <div data-bbox="571 934 1094 960" style="border: 1px solid black; padding: 2px;">CONNECT: OUTPUT-INPUT SEND-AUX2 [START]</div> </p> <p>(2) Remove cables between the AUX1 and SEND connectors, and connect cables between the AUX2 and SEND connectors, as shown.</p> <div data-bbox="533 1052 1431 1294" style="border: 1px solid black; padding: 10px; text-align: center;"> </div> <p>(3) After connection, press the parameter setting knob corresponding to the CHECK START display. The AUX2 input check is executed.</p> <p><b>Diagnostics result</b></p> <p>If OK: The channel status display area shows the following message and the diagnostics program terminates:  <div data-bbox="571 1581 1082 1608" style="border: 1px solid black; padding: 2px;">DMX-E2000 Self test: END GOOD!!</div> </p> <p>If NG: The diagnostics program stops at the step where the error occurred. The IC reference numbers are indicated on the channel status display area. Check the input and output data of the indicated ICs with an oscilloscope, and look for the IC outputting data other than "aaXX XXXXH (Hex)" or "55XX XXXXH (Hex)" since this IC is defective.</p> <p><b>note) X: arbitrary number</b></p>

## SECTION 2

### ELECTRICAL ALIGNMENT

This section explains the electrical adjustments required when following board is repaired or maintained.

#### MIX-17 BOARD

#### 2-1. ALIGNMENT PREPARATION

##### 2-1-1. Equipment Required/Tool

###### Equipment Required

Name	Minimum Specifications	Model
Frequency counter	Effective digits : 6 digits	HP5315A/Hewlett Packard or equivalent
Audio level meter (Audio analyzer)	Frequency bandwidth : 10 Hz to 100 kHz Resolution range : Possible to 30 dBs Balanced input type	ST-1710A/SOUND TECHNOLOGY (Audio analyzer) or equivalent

###### Tool

Name	Part No.
75 $\Omega$ terminator	1-695-542-11
Adjustment screwdriver	7-770-731-03

#### 2-2. ADJUSTMENT (MIX-17 Board)

**Note:** The adjustment is performed using "SYSTEM MENU" or "TONE MENU" of the DMX-E2000.

For detail of the menu setting, refer to Operation manual.

##### Switch and Control settings:

###### Control Panel

No initial settings of Switch and Control for this adjustment.

###### MIX-17 Board

S101: RESET switch.....OFF

S102: —

S103: DIP switch

S103-1, 2 .....ON

S103-3 to 8.....OFF

S301: RESET switch.....OFF

S402: —

S403: DIP switch

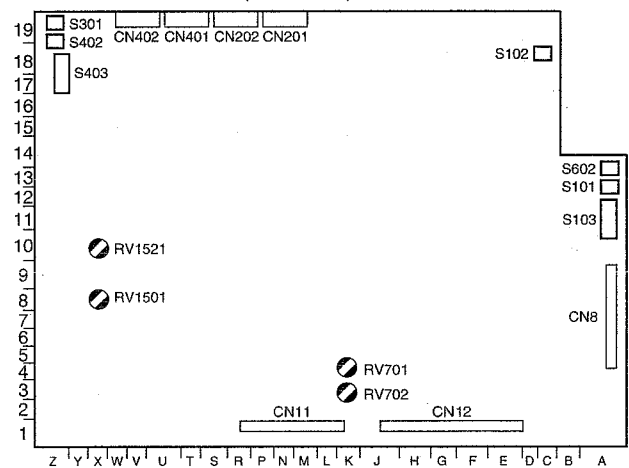
S403-1, 2 .....ON

S403-3 to 8.....OFF

S602: RESET switch.....OFF

##### Adjustment location

###### MIX-17 BOARD (A SIDE)



### 2-2-1. PLL Frequency Adjustment

#### Equipment required

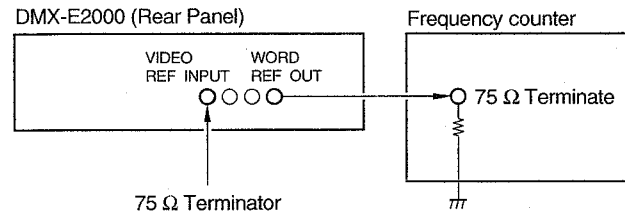
Frequency counter

#### Tool

75  $\Omega$  terminator

**Note:** Remove the connector cable to VIDEO REF INPUT, connect the 75  $\Omega$  terminator.

#### Connection



#### Adjustment procedures:

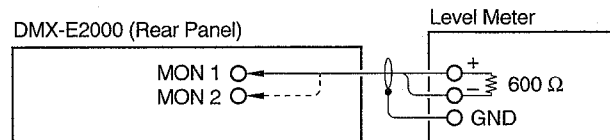
Adjustment conditions	Specifications	Adjustment location
<b>Step 1</b> • Set to the SYSTEM MENU as follows. Fs : 48 kHz REF. : WORD REF. V : —	WORD OUT connector sampling frequency = 48000 $\pm$ 1 Hz	RV701/MIX-17 board (K, 4)
<b>Step 2</b> • Set to the SYSTEM MENU as follows. Fs : 44.1 kHz REF. : WORD REF. V : —	WORD OUT connector sampling frequency = 441000 $\pm$ 1 Hz	RV702/MIX-17 board (K, 3)

### 2-2-2. Monitor Level Adjustment

#### Equipment required

Level meter (Audio analyzer)

#### Connection



#### Adjustment procedures:

Adjustment conditions	Specifications	Adjustment location
<b>Step 1</b> • Connect the level meter to MONITOR 1 connector. • Select the TONE MENU, set as follows. LEVEL : -20 dB FREQ : 1 kHz MONI OUT: MONITOR Output ON	MONITOR 1 Output level = +4 dBs $\pm$ 0.1 dB	RV1501/MIX-17 board (X, 7)
<b>Step 2</b> • Connect the level meter to MONITOR 2 connector. • Select the TONE MENU, set as follows. LEVEL : -20 dB FREQ : 1 kHz MONI OUT: MONITOR Output ON	MONITOR 2 Output level = +4 dBs $\pm$ 0.1 dB	RV1521/MIX-17 board (X, 9)

### SECTION 3 BOARD LAYOUTS

Board Name	Function	PAGE
ASW-32	ASSIGN SWITCH BOARD	3-2
CN-893	CONNECTOR BOARD	3-10
CN-894	CONNECTOR BOARD	3-10
CN-940	CONNECTOR BOARD	3-11
MIX-17	MIXING BOARD	3-4
MT-92	METER BOARD	3-6
SW-644	SWITCH BOARD	3-8
VR-174, MIC	VOLUME CONTROL BOARD	3-11

## ASW-32 BOARD

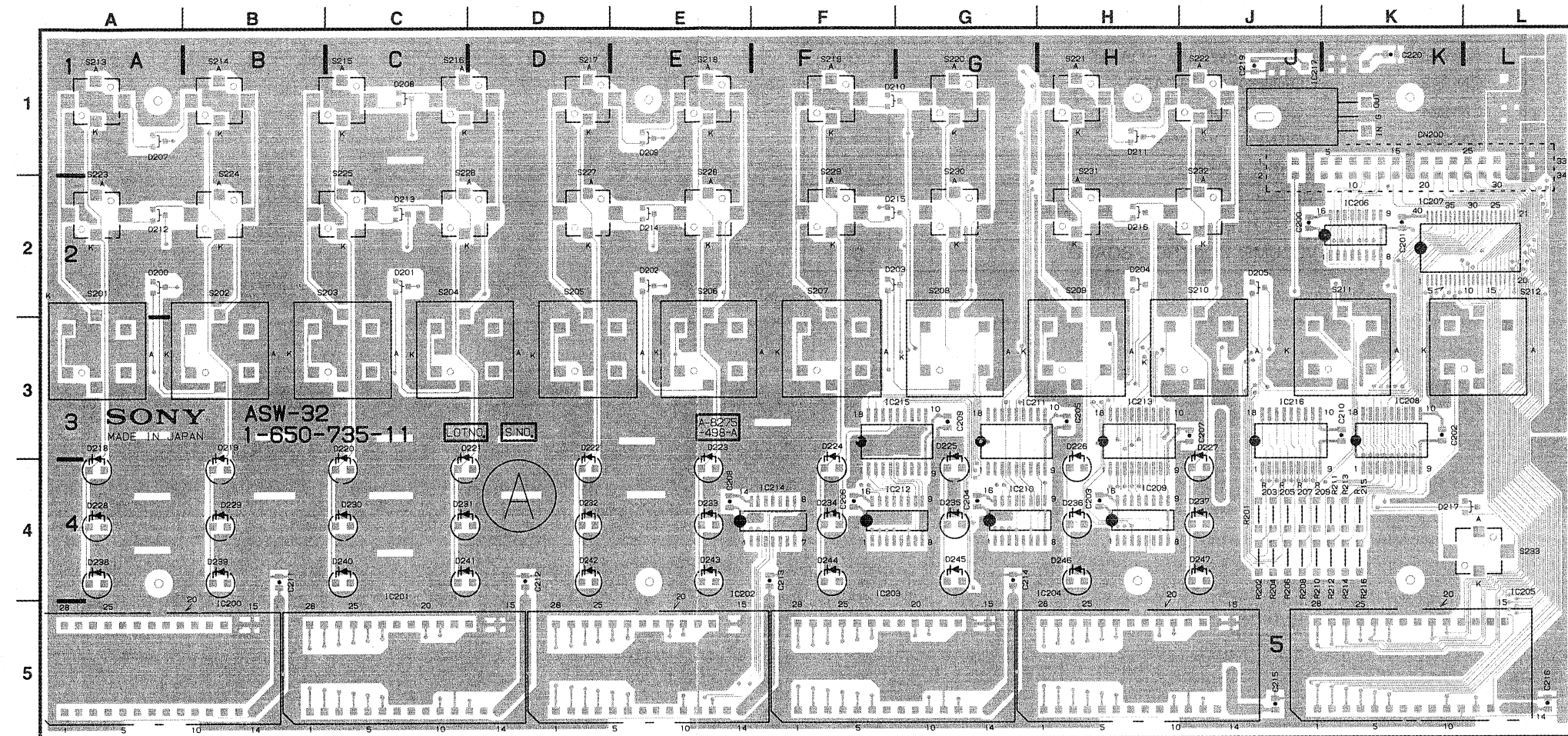
A SIDE

DMX-E2000

ASW-32 (1-650-735-11)

CNI200	A-5	IC200	A-5
CNI201	C-5	IC201	C-5
CNI202	E-5	IC202	E-5
CNI203	F-5	IC203	F-5
CNI204	H-5	IC204	H-5
CNI205	K-5	IC205	K-5
*CN200 K-1			
D200	A-2	IC206	K-2
D201	C-2	IC207	K-2
D202	E-2	IC208	K-4
D203	F-2	IC209	H-4
D204	H-2	IC210	G-4
D205	J-2	IC211	G-4
D207	A-1	IC212	F-4
D208	C-1	IC213	H-4
D209	E-1	IC214	E-4
D210	F-1	IC215	F-4
D211	H-1	IC216	J-4
D212	A-2	IC217	K-1
D213	C-2	S201	A-3
D214	E-2	S202	B-3
D215	F-2	S203	C-3
D216	H-2	S204	C-3
D217	L-4	S205	D-3
D218	A-4	S206	E-3
D219	B-4	S207	F-3
D220	C-4	S208	G-3
D221	C-4	S209	H-3
D222	D-4	S210	J-3
D223	E-4	S211	K-3
D224	F-4	S212	L-3
D225	G-4	S213	A-1
D226	H-4	S214	B-1
D227	J-4	S215	C-1
D228	A-4	S216	C-1
D229	B-4	S217	D-1
D230	C-4	S218	E-1
D231	C-4	S219	F-1
D232	D-4	S220	G-1
D233	E-4	S221	H-1
D234	F-4	S222	J-1
D235	G-4	S223	A-2
D236	H-4	S224	B-2
D237	J-4	S225	C-2
D238	A-4	S226	C-2
D239	B-4	S227	D-2
D240	C-4	S228	E-2
D241	C-4	S229	F-2
D242	D-4	S230	G-2
D243	E-4	S231	H-2
D244	F-4	S232	J-2
D245	G-4	S233	L-4
D246	H-4		
D247	J-4		

\*: SOLDERING SIDE

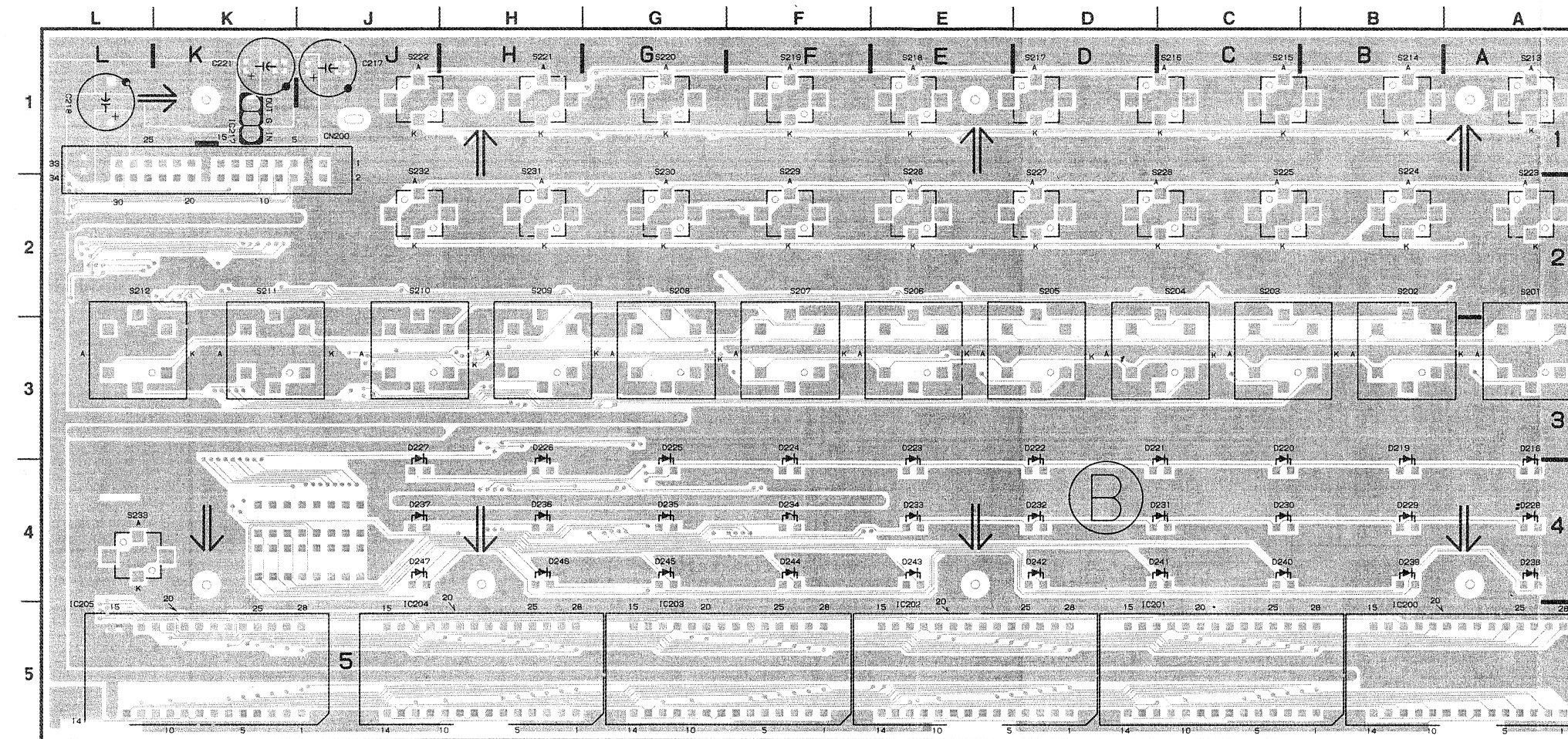


1-650-735-11 A SIDE

A Side is the same as Component Side.

## ASW-32 BOARD

B SIDE



1-650-735-11 B SIDE

B Side is the same as Solder Side.

DMX-E2000

ASW-32 (1-650-735-11)

CNI200	A-5	IC200	A-5
CNI201	C-5	IC201	C-5
CNI202	E-5	IC202	E-5
CNI203	F-5	IC203	F-5
CNI204	H-5	IC204	H-5
CNI205	K-5	IC205	K-5
*CN200	K-1	IC206	K-2
D200	A-2	IC207	K-2
D201	C-2	IC208	K-4
D202	E-2	IC209	H-4
D203	F-2	IC210	G-4
D204	H-2	IC211	G-4
D205	J-2	IC212	F-4
D207	A-1	IC213	H-4
D208	C-1	IC214	E-4
D209	E-1	IC215	F-4
D210	F-1	IC216	J-4
D211	H-1	IC217	K-1
D212	A-2	S201	A-3
D213	C-2	S202	B-3
D214	E-2	S203	C-3
D215	F-2	S204	C-3
D216	H-2	S205	D-3
D217	L-4	S206	E-3
D218	A-4	S207	F-3
D219	B-4	S208	G-3
D220	C-4	S209	H-3
D221	C-4	S210	J-3
D222	D-4	S211	K-3
D223	E-4	S212	L-3
D224	F-4	S213	A-1
D225	G-4	S214	B-1
D226	H-4	S215	C-1
D227	J-4	S216	C-1
D228	A-4	S217	D-1
D229	B-4	S218	E-1
D230	C-4	S219	F-1
D231	C-4	S220	G-1
D232	D-4	S221	H-1
D233	E-4	S222	J-1
D234	F-4	S223	A-2
D235	G-4	S224	B-2
D236	H-4	S225	C-2
D237	J-4	S226	C-2
D238	A-4	S227	D-2
D239	B-4	S228	E-2
D240	C-4	S229	F-2
D241	C-4	S230	G-2
D242	D-4	S231	H-2
D243	E-4	S232	J-2
D244	F-4	S233	L-4
D245	G-4		
D246	H-4		
D247	J-4		

\*: SOLDERING SIDE



## MIX-17 BOARD

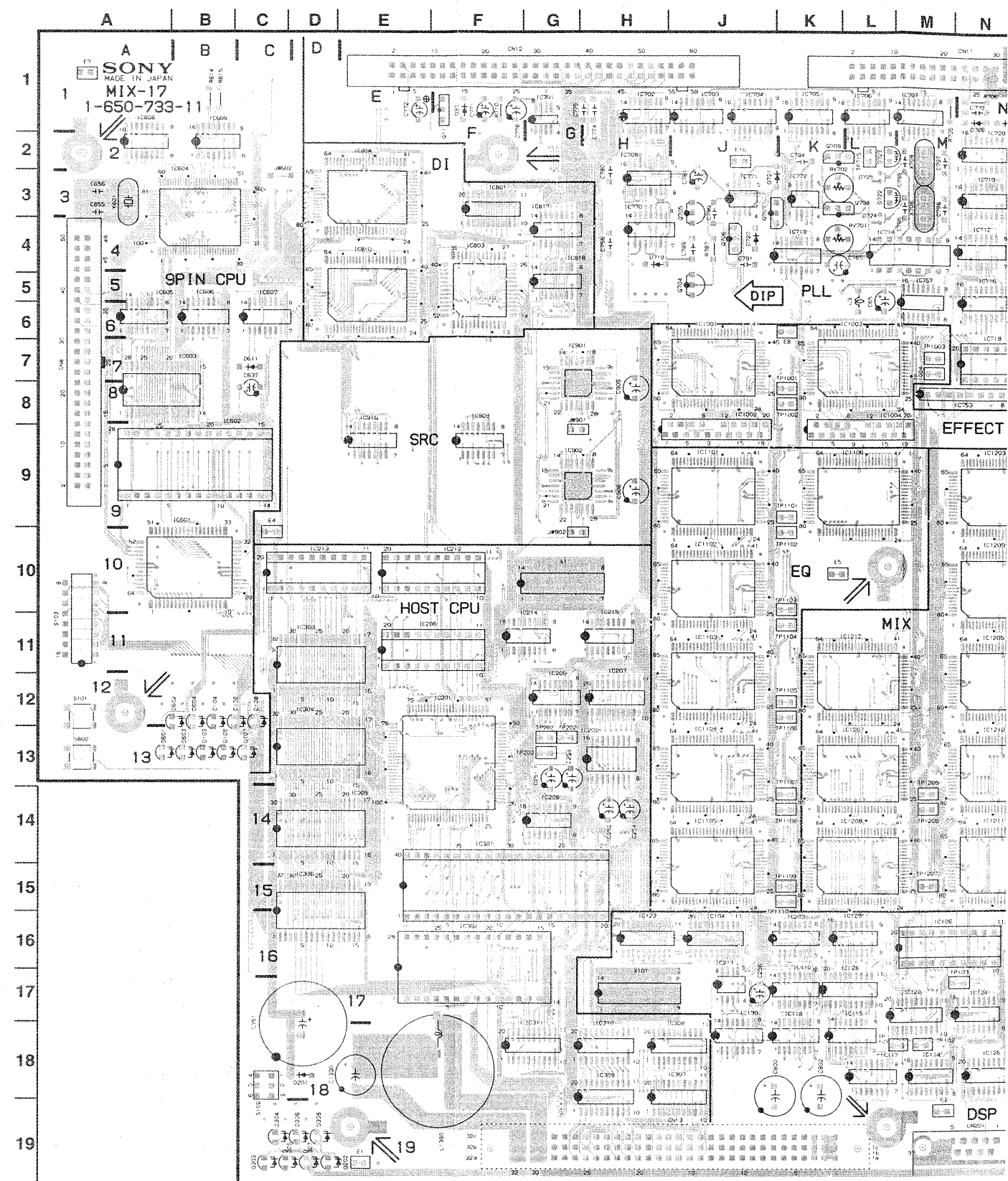
A SIDE

DMX-E2000

MIX-17 (1-650-733-11)

CNI106 M-16	IC106 M-16	IC607 C-6	IC1104 J-13	TP705 T-9
CNI206 E-11	IC107 P-16	IC608 A-2	IC1105 J-14	TP713 P-6
CNI212 E-10	IC109 P-18	IC609 B-2	IC1106 L-9	TP715 L-2
CNI213 C-10	IC110 P-18	IC701 G-1	IC1203 N-9	TP1001 K-8
CNI301 E-15	IC114 M-18	IC702 H-1	IC1205 N-12	TP1002 K-8
CNI302 E-17	IC115 K-18	IC703 J-1	IC1207 L-13	TP1003 M-7
CNI406 Y-16	IC116 K-18	IC704 J-1	IC1208 L-14	TP1004 M-7
CNI412 T-17	IC117 L-18	IC705 K-1	IC1209 N-10	TP1005 T-10
CNI503 V-14	IC118 R-18	IC706 L-1	IC1210 N-13	TP1006 T-9
CNI602 A-9	IC119 S-18	IC707 M-1	IC1211 N-14	TP1007 T-11
CNI718 N-7	IC120 R-18	IC708 H-3	IC1212 L-12	TP1008 T-11
	IC121 S-18	IC709 R-4	IC1301 U-14	TP1009 T-13
CN8 A-7	IC122 M-18	IC710 N-3	IC1302 T-15	TP1010 T-14
CN11 M-1	IC123 H-16	IC711 P-3	IC1303 U-12	TP1101 K-9
CN12 G-1	IC124 N-18	IC712 N-4	IC1304 R-15	TP1102 K-10
*CN13 J-19	IC125 K-16	IC713 K-4	IC1310 Z-4	TP1103 K-10
	IC126 N-18	IC714 L-4	IC1311 Z-6	TP1104 K-11
D32 F-1	IC128 K-17	IC715 P-6	IC1312 Z-8	TP1105 K-12
D103 B-13	IC130 J-18	IC716 N-6	IC1313 Z-9	TP1106 K-12
D104 B-12	IC131 R-19	IC717 P-4	IC1341 V-11	TP1107 K-14
D105 B-13	IC201 F-13	IC718 N-7	IC1342 Z-6	TP1108 K-14
D106 C-12	IC202 H-13	IC720 N-2	IC1343 Z-9	TP1109 K-15
D107 C-13	IC203 K-16	IC721 P-2	IC1501 X-7	TP1110 K-15
D108 C-12	IC204 V-16	IC722 S-4	IC1502 X-5	TP1201 R-9
D201 D-18	IC205 X-16	IC750 S-6	IC1521 X-9	TP1202 R-10
D202 D-19	IC206 E-11	IC751 R-6	IC1522 X-9	TP1203 R-12
D303 C-19	IC207 H-12	IC752 S-7	IC1531 V-11	TP1204 R-12
D304 C-19	IC208 G-14	IC753 M-8	IC1551 W-5	TP1205 M-14
D305 C-19	IC209 G-12	IC754 S-6	IC1553 W-9	TP1206 M-14
D306 D-19	IC211 J-17	IC755 S-7		TP1207 M-15
D307 D-19	IC212 E-10	IC757 M-6	Q11 F-1	TP1208 R-10
D308 D-19	IC213 C-10	IC758 R-8	Q704 J-5	TP1209 R-11
D401 U-16	IC214 F-11	IC759 S-8	Q705 J-3	TP1211 R-14
D601 A-13	IC215 H-11	IC760 R-7	Q706 J-4	TP1212 R-14
D602 B-12	IC301 E-15	IC762 R-8	Q707 K-3	TP1213 R-15
D603 B-13	IC302 E-17	IC770 H-4	Q708 K-3	TP1214 R-15
D604 B-12	IC303 C-12	IC771 J-3	Q709 K-2	
D611 C-7	IC304 C-13	IC772 K-3	Q1501 U-11	
D705 N-1	IC305 C-14	IC801 F-3		X1 G-10
D706 N-1	IC306 C-16	IC803 F-5	RV701 K-4	X101 H-17
D719 H-4	IC307 H-19	IC804 E-3	RV702 K-3	X601 A-3
D720 J-4	IC308 H-18	IC806 Y-1	RV1501 X-7	X701 S-9
D721 K-3	IC309 H-19	IC807 X-1	RV1521 X-9	X708 M-3
D724 L-3	IC310 H-18	IC808 Z-1		X709 M-2
D725 L-3	IC311 F-18	IC809 U-6	RY1501 W-7	
D1501 U-11	IC401 W-18	IC810 E-5	RY1502 W-9	
D1502 U-11	IC402 U-18	IC811 U-8	RY1503 T-10	
	IC403 W-16	IC812 U-9		
E1 E-19	IC406 Y-16	IC814 U-3	S101 A-12	
E2 M-19	IC407 Y-17	IC817 G-4	S102 C-18	
E3 Y-19	IC408 Y-18	IC818 G-5	S103 A-11	
E4 C-10	IC409 T-18	IC901 G-7	S301 Z-19	
E5 K-10	IC410 K-17	IC902 G-9	S402 Z-18	
E6 Z-10	IC411 U-16	IC909 F-9	S403 Z-18	
E7 A-1	IC412 T-17	IC910 E-9	S602 A-13	
E8 K-6	IC501 W-12	IC1001 J-7		
E9 T-4	IC502 Z-12	IC1002 H-9	TP101 M-18	
E10 J-2	IC503 V-14	IC1003 L-7	TP102 M-18	
E11 X-3	IC504 V-15	IC1004 K-9	TP103 N-17	
E12 W-7	IC505 U-15	IC1005 S-9	TP201 G-13	
	IC506 X-15	IC1006 R-10	TP202 G-13	
FL1301 U-1	IC507 Z-15	IC1007 S-11	TP203 G-13	
FL1302 W-1	IC601 B-10	IC1008 R-12	TP4-3 U-17	
	IC602 A-9	IC1009 S-13	TP404 U-17	
IC100 R-16	IC603 A-8	IC1010 R-14	TP701 T-8	
IC101 S-16	IC604 B-3	IC1101 J-9	TP702 T-5	
IC102 T-16	IC605 A-6	IC1102 J-10	TP703 T-7	
IC104 J-16	IC606 B-6	IC1103 J-12	TP704 T-9	

\*: SOLDERING SIDE

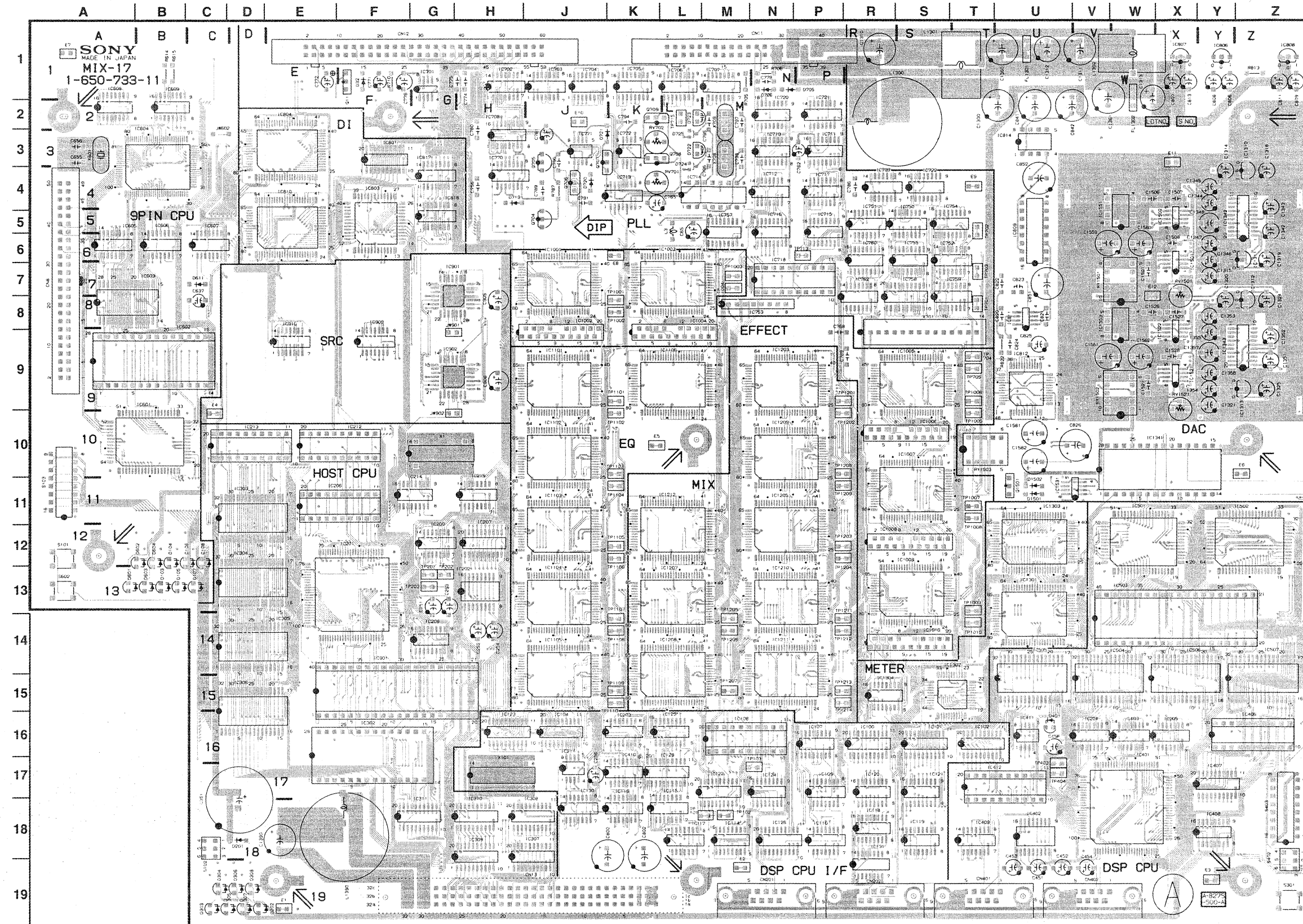


1-650-733-11 A SIDE

A Side is the same as Component Side.

## MIX-17 BOARD

**A SIDE**



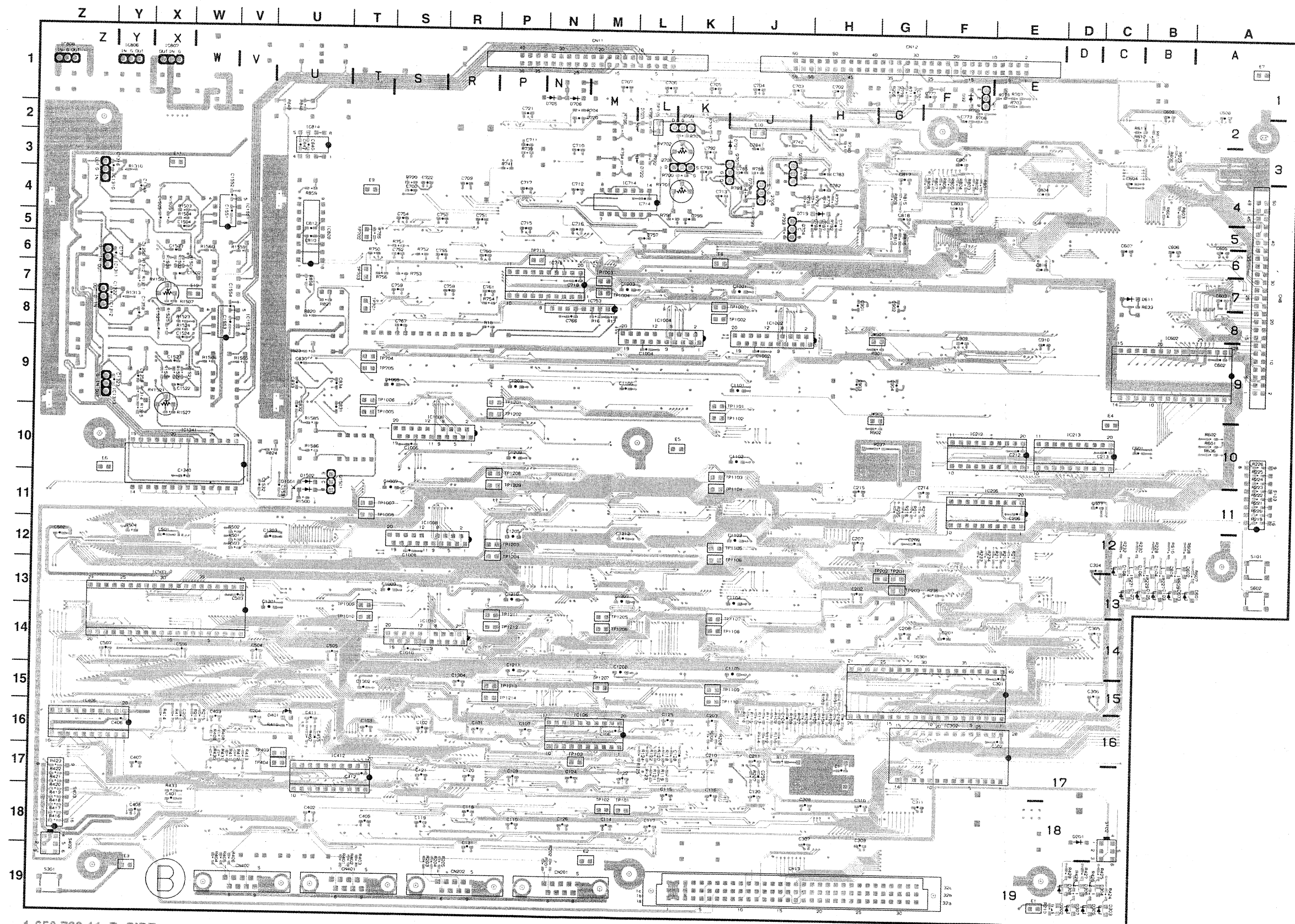
1-650-733-11 A SIDE

A Side is the same as Component Side.



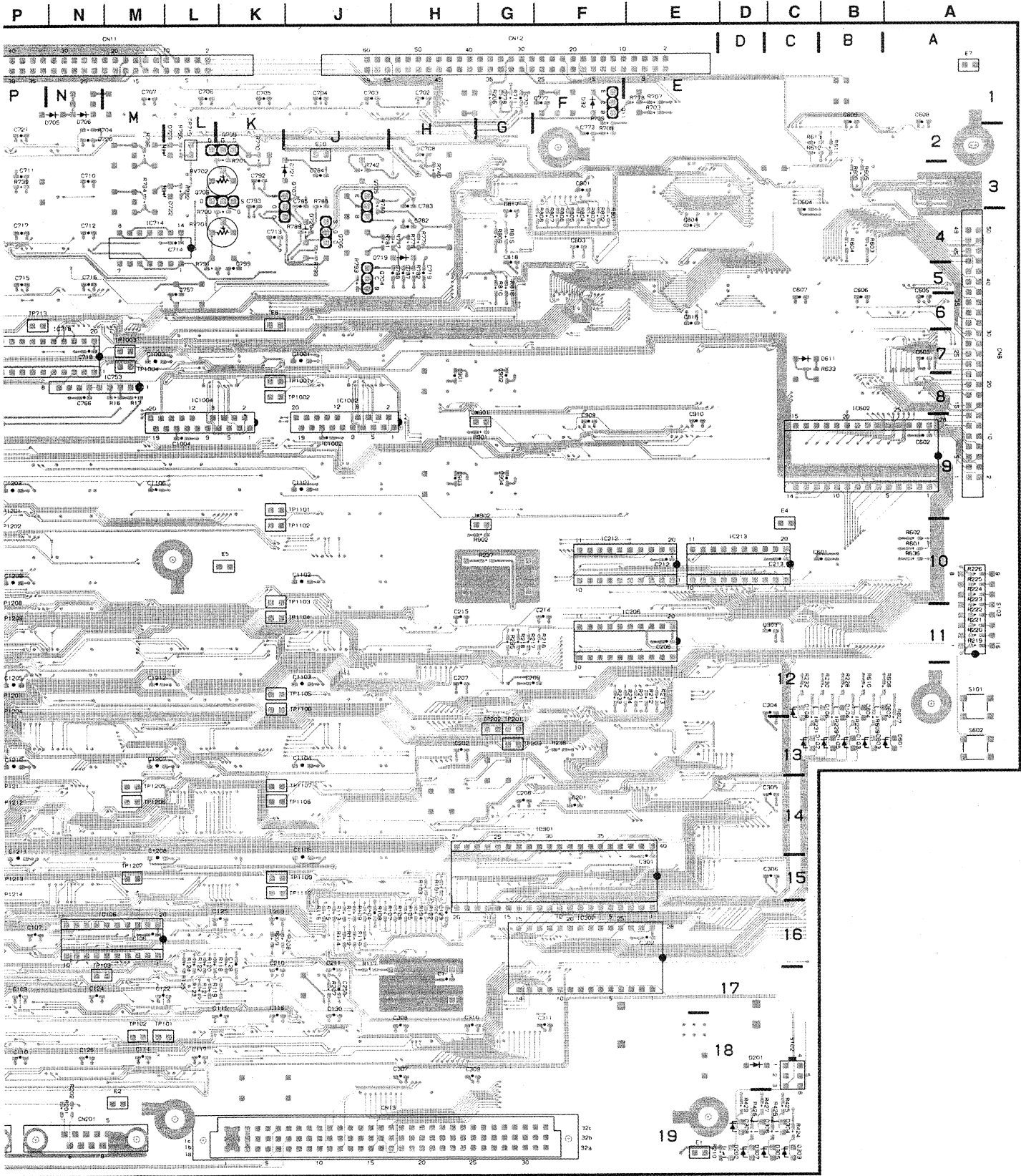
## MIX-17 BOARD

**B SIDE**



1-650-733-11 B SIDE

**B Side is the same as Solder Side.**



DMX-E2000

MIX-17 (1-650-733-11)

CNI106	M-16	IC106	M-16	IC607	C-6	IC1104	J-13	TP705	T-9
CNI206	E-11	IC107	P-16	IC608	A-2	IC1105	J-14	TP713	P-6
CNI212	E-10	IC109	P-18	IC609	B-2	IC1106	L-9	TP715	L-2
CNI213	C-10	IC110	P-18	IC701	G-1	IC1203	N-9	TP1001	K-8
CNI301	E-15	IC114	M-18	IC702	H-1	IC1205	N-12	TP1002	K-8
CNI302	E-17	IC115	K-18	IC703	J-1	IC1207	L-13	TP1003	M-7
CNI406	Y-16	IC116	K-18	IC704	J-1	IC1208	L-14	TP1004	M-7
CNI412	T-17	IC117	L-18	IC705	K-1	IC1209	N-10	TP1005	T-10
CNI503	V-14	IC118	R-18	IC706	L-1	IC1210	N-13	TP1006	T-9
CNI602	A-9	IC119	S-18	IC707	M-1	IC1211	N-14	TP1007	T-11
CNI718	N-7	IC120	R-18	IC708	H-3	IC1212	L-12	TP1008	T-11
		IC121	S-18	IC709	R-4	IC1301	U-14	TP1009	T-13
CN8	A-7	IC122	M-18	IC710	N-3	IC1302	T-15	TP1010	T-14
CN11	M-1	IC123	H-16	IC711	P-3	IC1303	U-12	TP1101	K-9
CN12	G-1	IC124	N-18	IC712	N-4	IC1304	R-15	TP1102	K-10
*CN13	J-19	IC125	K-16	IC713	K-4	IC1310	Z-4	TP1103	K-10
		IC126	N-18	IC714	L-4	IC1311	Z-6	TP1104	K-11
D32	F-1	IC128	K-17	IC715	P-6	IC1312	Z-8	TP1105	K-12
D103	B-13	IC130	J-18	IC716	N-6	IC1313	Z-9	TP1106	K-12
D104	B-12	IC131	R-19	IC717	P-4	IC1341	V-11	TP1107	K-14
D105	B-13	IC201	F-13	IC718	N-7	IC1342	Z-6	TP1108	K-14
D106	C-12	IC202	H-13	IC720	N-2	IC1343	Z-9	TP1109	K-15
D107	C-13	IC203	K-16	IC721	P-2	IC1501	X-7	TP1110	K-15
D108	C-12	IC204	V-16	IC722	S-4	IC1502	X-5	TP1201	R-9
D201	D-18	IC205	X-16	IC750	S-6	IC1521	X-9	TP1202	R-10
D202	D-19	IC206	E-11	IC751	R-6	IC1522	X-9	TP1203	R-12
D303	C-19	IC207	H-12	IC752	S-7	IC1531	V-11	TP1204	R-12
D304	C-19	IC208	G-14	IC753	M-8	IC1551	W-5	TP1205	M-14
D305	C-19	IC209	G-12	IC754	S-6	IC1553	W-9	TP1206	M-14
D306	D-19	IC211	J-17	IC755	S-7			TP1207	M-15
D307	D-19	IC212	E-10	IC757	M-6	Q11	F-1	TP1208	R-10
D308	D-19	IC213	C-10	IC758	R-8	Q704	J-5	TP1209	R-11
D401	U-16	IC214	F-11	IC759	S-8	Q705	J-3	TP1211	R-14
D601	A-13	IC215	H-11	IC760	R-7	Q706	J-4	TP1212	R-14
D602	B-12	IC301	E-15	IC762	R-8	Q707	K-3	TP1213	R-15
D603	B-13	IC302	E-17	IC770	H-4	Q708	K-3	TP1214	R-15
D604	B-12	IC303	C-12	IC771	J-3	Q709	K-2		
D611	C-7	IC304	C-13	IC772	K-3	Q1501	U-11	X1	G-10
D705	N-1	IC305	C-14	IC801	F-3			X101	H-17
D706	N-1	IC306	C-16	IC803	F-5			X601	A-3
D719	H-4	IC307	H-19	IC804	E-3	RV702	K-3	X701	S-9
D720	J-4	IC308	H-18	IC806	Y-1	RV1501	X-7	X708	M-3
D721	K-3	IC309	H-19	IC807	X-1	RV1521	X-9	X709	M-2
D724	L-3	IC310	H-18	IC808	Z-1				
D725	L-3	IC311	F-18	IC809	U-6				
D1501	U-11	IC401	W-18	IC810	E-5	RY1501	W-7		
D1502	U-11	IC402	U-18	IC811	U-8	RY1502	W-9		
		IC403	W-16	IC812	U-9	RY1503	T-10		
E1	E-19	IC406	Y-16	IC814	U-3	S101	A-12		
E2	M-19	IC407	Y-17	IC817	G-4	S102	C-18		
E3	Y-19	IC408	Y-18	IC818	G-5	S103	A-11		
E4	C-10	IC409	T-18	IC901	G-7	S301	Z-19		
E5	K-10	IC410	K-17	IC902	G-9	S402	Z-18		
E6	Z-10	IC411	U-16	IC909	F-9	S403	Z-18		
E7	A-1	IC412	T-17	IC910	E-9	S602	A-13		
E8	K-6	IC501	W-12	IC1001	J-7				
E9	T-4	IC502	Z-12	IC1002	H-9	TP101	M-18		
E10	J-2	IC503	V-14	IC1003	L-7	TP102	M-18		
E11	X-3	IC504	V-15	IC1004	K-9	TP103	N-17		
E12	W-7	IC505	U-15	IC1005	S-9	TP201	G-13		
		IC506	X-15	IC1006	R-10	TP202	G-13		
FL1301	U-1	IC507	Z-15	IC1007	S-11	TP203	G-13		
FL1302	W-1	IC601	B-10	IC1008	R-12	TP4-3	U-17		
		IC602	A-9	IC1009	S-13	TP404	U-17		
IC100	R-16	IC603	A-8	IC1010	R-14	TP701	T-8		
IC101	S-16	IC604	B-3	IC1101	J-9	TP702	T-5		
IC102	T-16	IC605	A-6	IC1102	J-10	TP703	T-7		
IC104	J-16	IC606	B-6	IC1103	J-12	TP704	T-9		

\* : SOLDERING SIDE

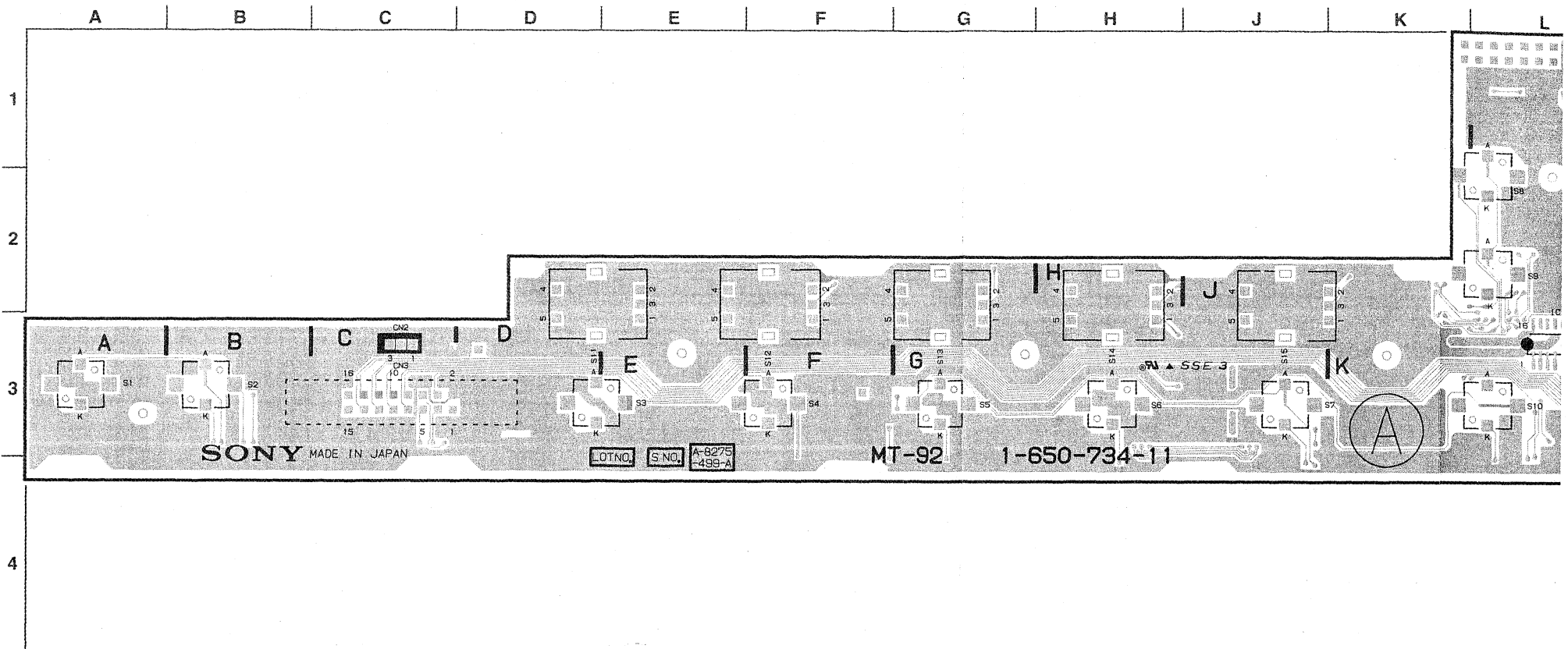
MT-92 BOARD

A SIDE

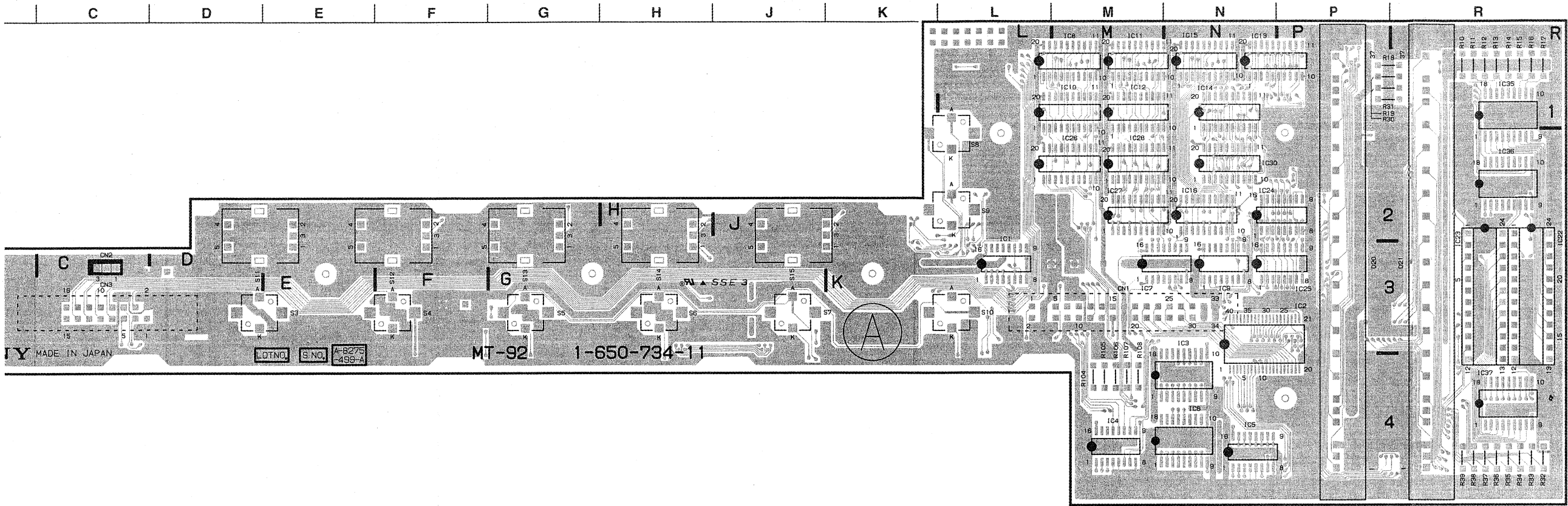
DMX-E2000  
MT-92 (1-650-734-11)

CNI22	R-2	S1	A-3
CNI23	R-2	S2	B-3
		S3	E-3
*CN1	N-3	S4	F-3
*CN2	C-3	S5	G-3
*CN3	D-3	S6	H-3
		S7	K-3
*D1	A-3	S8	L-2
*D2	E-3	S9	L-2
*D3	G-3	S10	L-3
*D4	K-3	S11	D-3
*D5	L-2	S12	F-3
*D6	L-2	S13	G-3
*D10	E-2	S14	H-3
*D11	E-2	S15	J-3
*D12	G-2		
*D13	J-3		
*D14	K-2		
*D15	K-2		
*D16	F-2		
*D17	G-2		
*D18	J-3		
D20	P-3		
D21	R-3		
IC1	L-3		
IC2	P-3		
IC3	N-3		
IC4	M-4		
IC5	N-4		
IC6	N-4		
IC7	M-3		
IC8	M-1		
IC9	N-3		
IC10	M-1		
IC11	M-1		
IC12	M-1		
IC13	N-1		
IC14	N-1		
IC15	N-1		
IC16	N-2		
*IC17	N-1		
*IC18	N-1		
IC22	R-2		
IC23	R-2		
IC24	N-2		
IC25	P-3		
IC26	M-2		
IC27	M-2		
IC28	M-2		
*IC29	N-2		
IC30	N-2		
*IC32	P-4		
*IC33	P-3		
*IC34	P-3		
IC35	R-1		
IC36	R-2		
IC37	R-4		
*IC38	L-1		
*IC39	H-3		

\* : SOLDERING SIDE





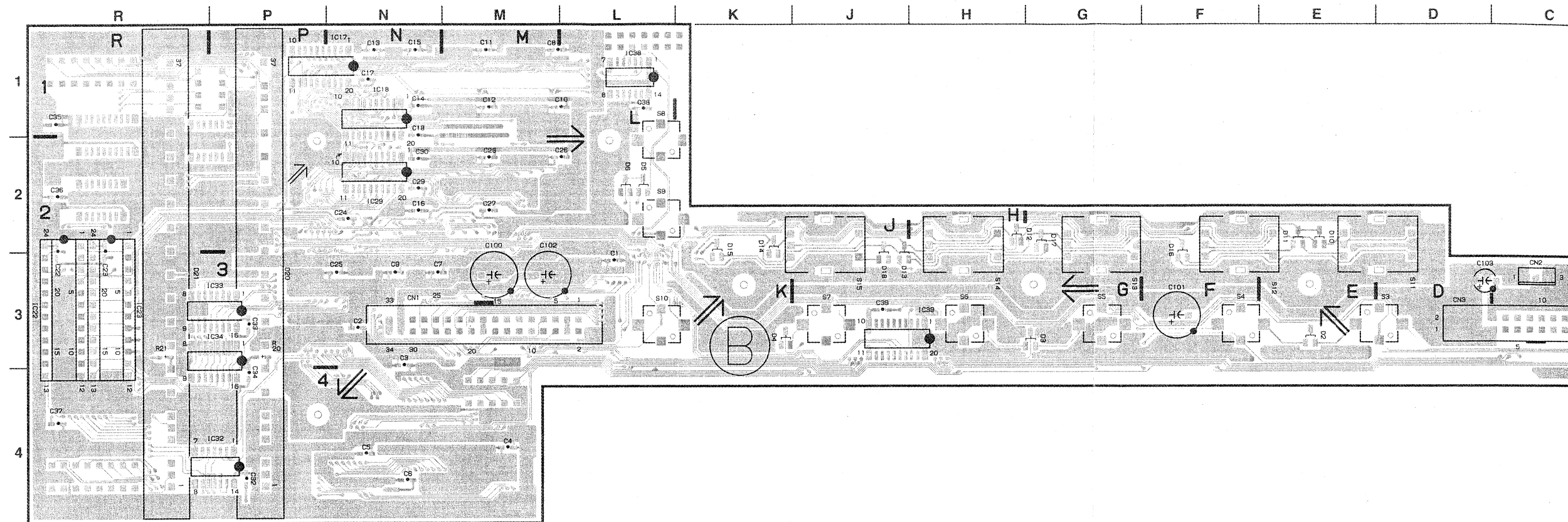


1-650-734-11 A SIDE

A Side is the same as Component Side.

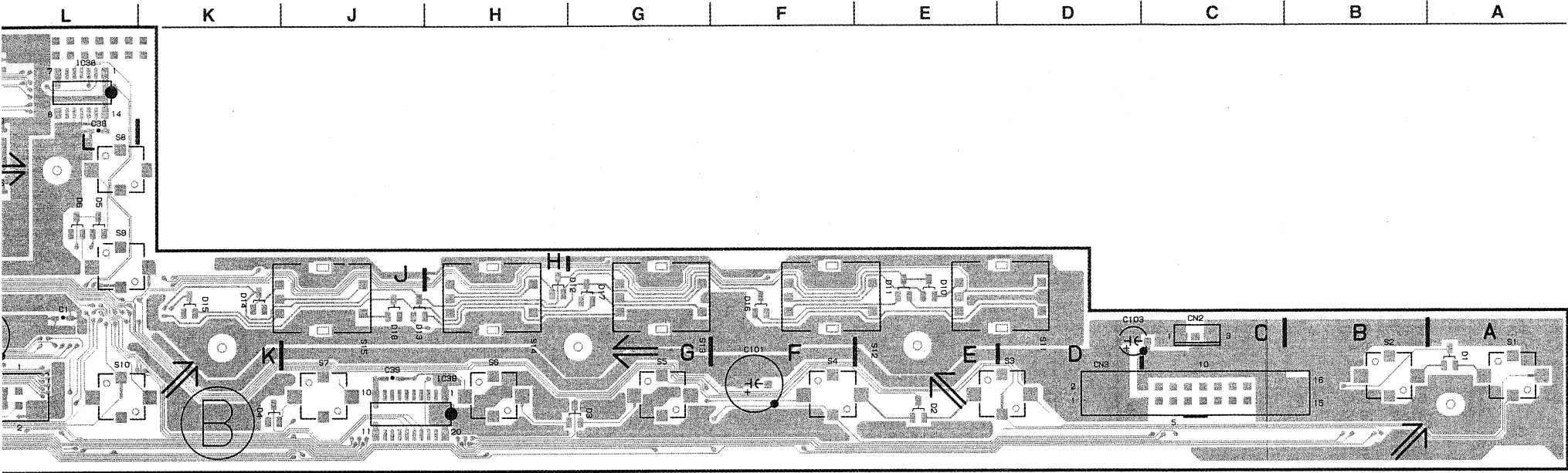
## MT-92 BOARD

**B SIDE**



1-650-734-11 B SIDE

**B Side is the same as Solder Side.**



DMX-E2000

MT-92 (1-650-734-11)

CN122	R-2	S1	A-3
CN123	R-2	S2	B-3
		S3	E-3
*CN1	N-3	S4	F-3
*CN2	C-3	S5	G-3
*CN3	D-3	S6	H-3
		S7	K-3
*D1	A-3	S8	L-2
*D2	E-3	S9	L-2
*D3	G-3	S10	L-3
*D4	K-3	S11	D-3
*D5	L-2	S12	F-3
*D6	L-2	S13	G-3
*D10	E-2	S14	H-3
*D11	E-2	S15	J-3
*D12	G-2		
*D13	J-3		
*D14	K-2		
*D15	K-2		
*D16	F-2		
*D17	G-2		
*D18	J-3		
D20	P-3		
D21	R-3		
IC1	L-3		
IC2	P-3		
IC3	N-3		
IC4	M-4		
IC5	N-4		
IC6	N-4		
IC7	M-3		
IC8	M-1		
IC9	N-3		
IC10	M-1		
IC11	M-1		
IC12	M-1		
IC13	N-1		
IC14	N-1		
IC15	N-1		
IC16	N-2		
*IC17	N-1		
*IC18	N-1		
IC22	R-2		
IC23	R-2		
IC24	N-2		
IC25	P-3		
IC26	M-2		
IC27	M-2		
IC28	M-2		
*IC29	N-2		
IC30	N-2		
*IC32	P-4		
*IC33	P-3		
*IC34	P-3		
IC35	R-1		
IC36	R-2		
IC37	R-4		
*IC38	L-1		
*IC39	H-3		

\* : SOLDERING SIDE

## SW-644 BOARD

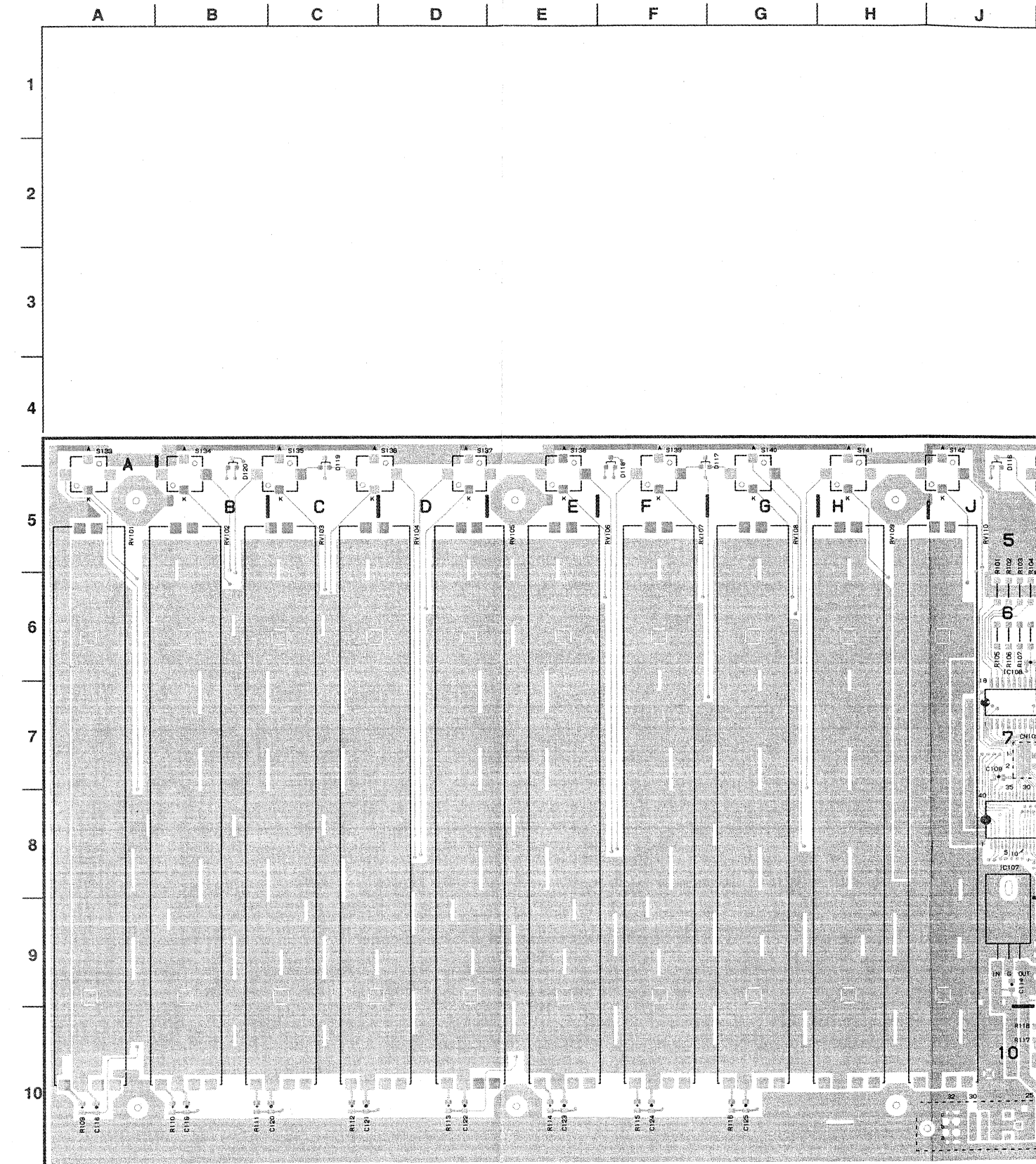
**A SIDE**

DMX-E2000

SW-644 (1-650-736-11)

*CN101	K-10	S101	P-1
*CN102	K-7	S102	P-1
*CN103	P-10	S103	R-1
		S104	M-1
D101	P-1	S105	N-1
D102	R-1	S106	M-2
D103	M-2	S107	N-2
D104	M-2	S108	N-2
D105	M-3	S109	P-2
D106	N-2	S110	P-2
D107	N-3	S111	R-2
D108	R-2	S112	S-2
D109	R-3	S113	S-2
D110	S-2	S114	M-3
D111	S-3	S115	N-3
D112	P-4	S116	N-3
D113	R-4	S117	P-3
D114	R-5	S118	P-3
D115	L-5	S119	R-3
D116	J-4	S120	S-3
D117	G-5	S121	S-3
D118	F-5	S122	P-4
D119	C-5	S123	P-4
D120	B-5	S124	R-4
D121	K-5	S125	S-4
D122	R-6	S126	S-4
		S127	R-5
IC101	K-8	S128	S-5
IC102	L-8	S129	K-4
IC103	K-10	S130	L-6
IC104	K-9	S131	L-5
IC105	K-7	S132	L-6
IC106	K-8	S133	A-5
IC107	J-8	S134	B-5
IC108	J-6	S135	C-5
IC109	K-5	S136	D-5
IC110	K-6	S137	D-5
IC111	K-5	S138	E-5
		S139	F-5
RV101	A-5	S140	G-5
RV102	B-5	S141	H-4
RV103	C-5	S142	J-4
RV104	D-5	S143	R-6
RV105	E-5	S144	S-6
RV106	F-5		
RV107	F-5		
RV108	G-5		
RV109	H-5		
RV110	J-5		
RV111	M-5		
RV112	N-5		
RV113	R-5		

\* : SOLDERING SIDE



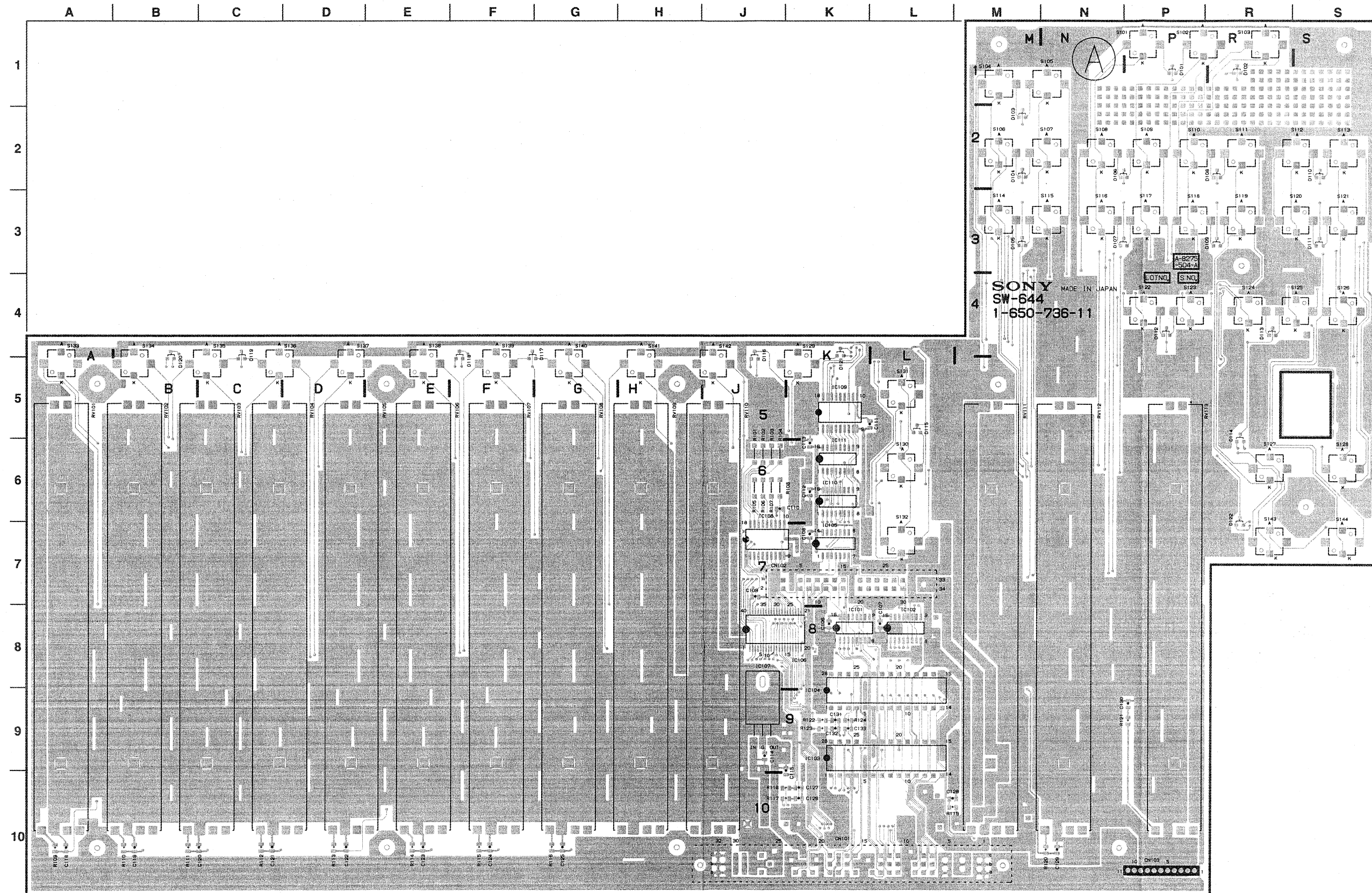
1-650-736-11 A SIDE

A Side is the same as Component Side.



## SW-644 BOARD

A SIDE



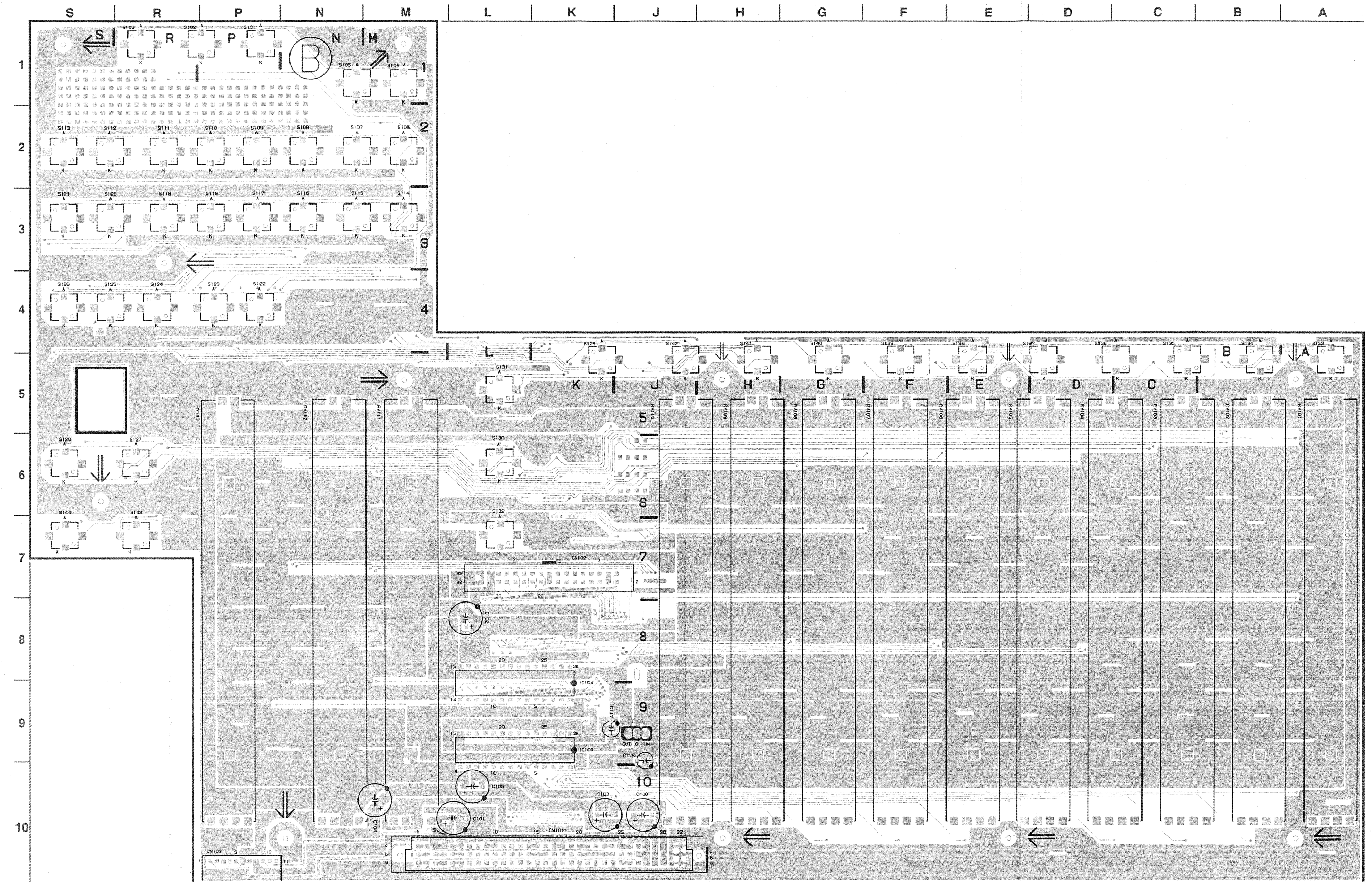
1-650-736-11 A SIDE

A Side is the same as Component Side.



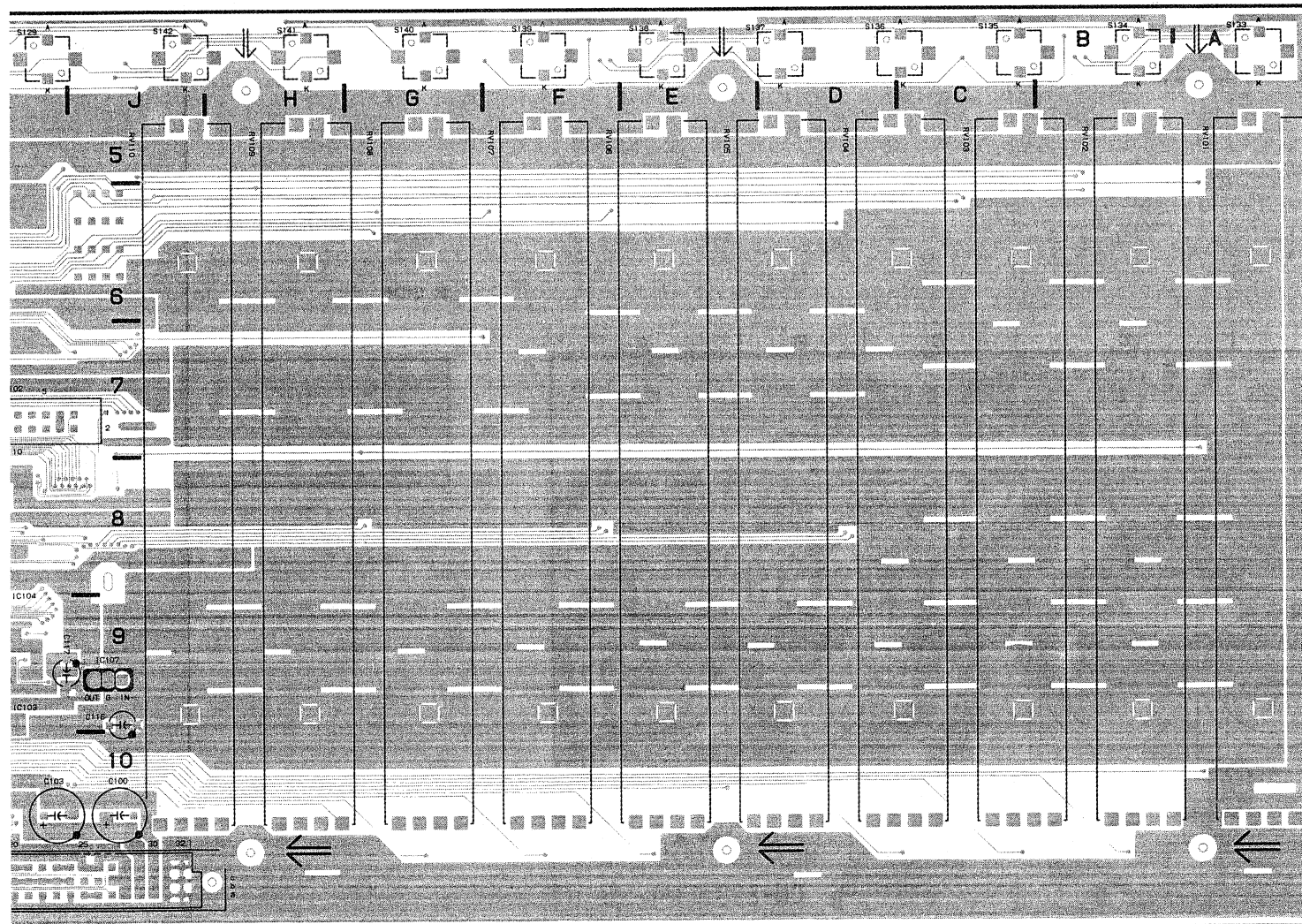
## SW-644 BOARD

B SIDE



1-650-736-11 B SIDE

B Side is the same as Solder Side.



\* : SOLDERING SIDE



# CN-893 BOARD

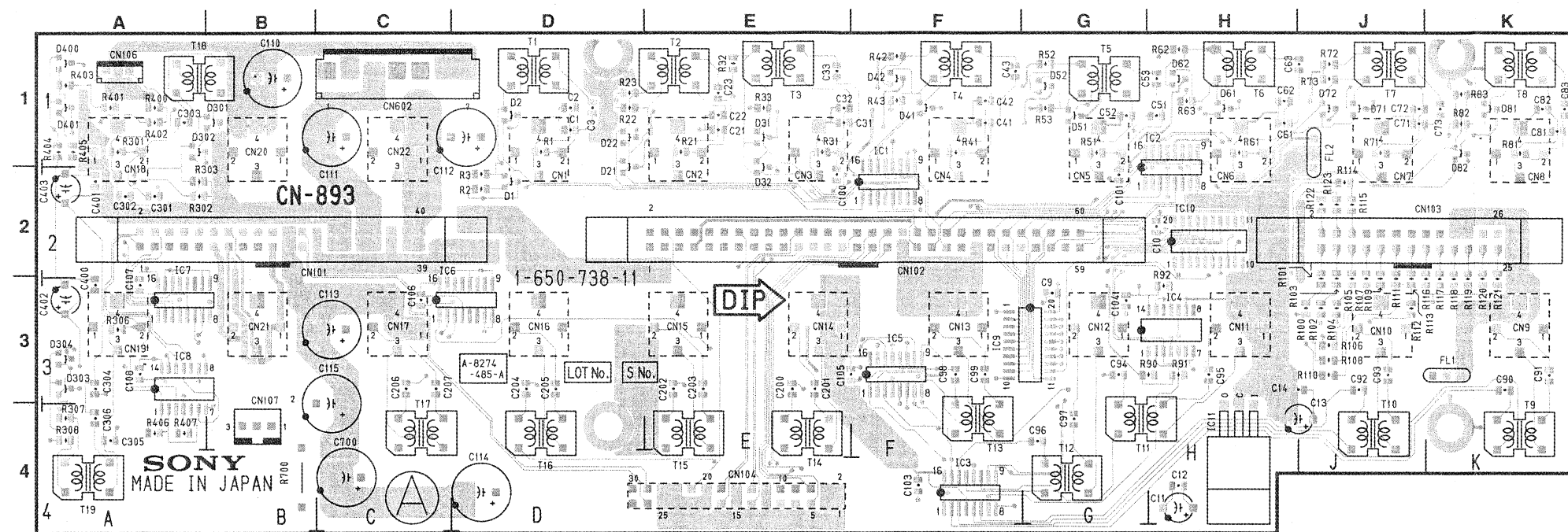
A SIDE

DMX-E2000

CN-893 (1-650-738-11)

*CN1	D-1	FL1	K-3
*CN2	E-1	FL2	J-1
*CN3	F-1		
*CN4	F-1	IC1	F-1
*CN5	G-1	IC2	G-1
*CN6	H-1	IC3	F-4
*CN7	J-1	IC4	H-3
*CN8	K-1	IC5	F-3
*CN9	K-4	IC6	C-2
*CN10	J-4	IC7	A-2
*CN11	H-4	IC8	A-3
*CN12	G-4	IC9	F-3
*CN13	F-4	IC10	H-2
*CN14	F-4	IC11	H-4
*CN15	E-4		
*CN16	D-4	T1	D-1
*CN17	C-4	T2	E-1
*CN18	A-1	T3	E-1
*CN19	A-4	T4	F-1
*CN20	B-1	T5	G-1
*CN21	B-4	T6	H-1
*CN22	C-2	T7	J-1
CN101	B-2	T8	K-1
CN102	F-2	T9	K-3
CN103	J-2	T10	J-3
*CN104	E-4	T11	G-4
CN106	A-1	T12	G-4
CN107	B-3	T13	F-4
CN602	C-1	T14	E-4
		T15	E-4
		T16	D-4
		T17	C-4
		T18	A-1
		T19	A-4
D1	D-2		
D2	D-1		
D21	D-1		
D22	D-1		
D31	E-1		
D32	E-2		
D41	F-1		
D42	F-1		
D51	G-1		
D52	G-1		
D61	H-1		
D62	H-1		
D71	J-1		
D72	J-1		
D81	K-1		
D82	K-1		
D301	B-1		
D302	A-1		
D303	A-3		
D304	A-3		
D400	A-1		
D401	A-1		

\*: SOLDERING SIDE

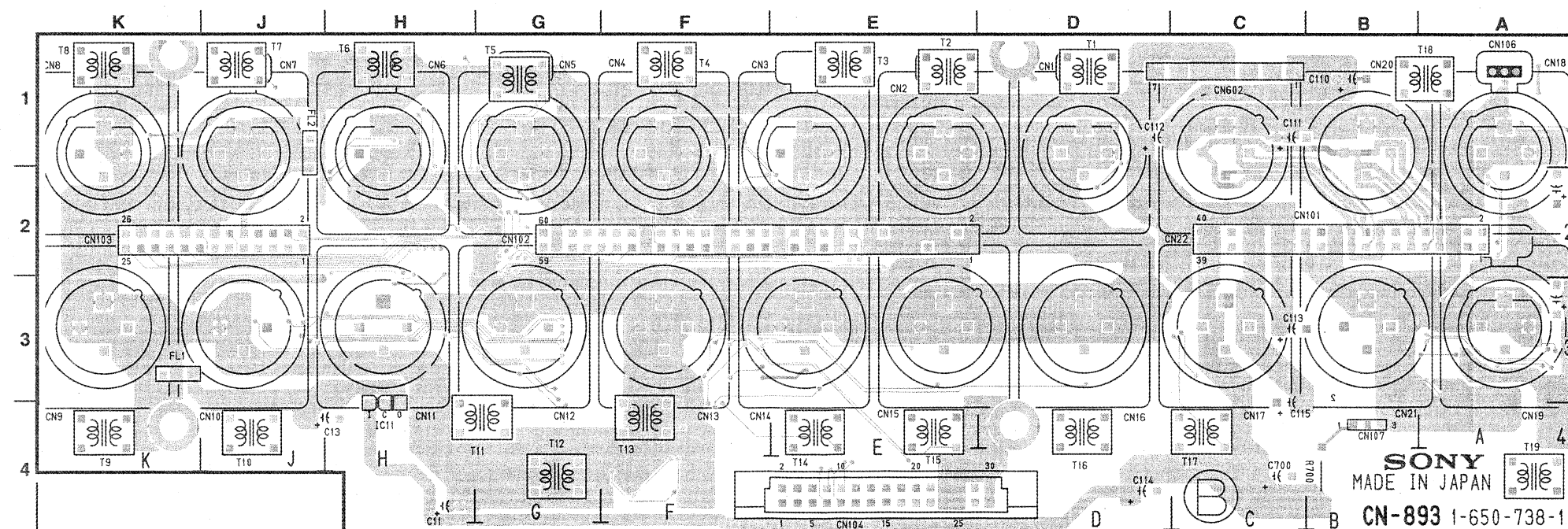


1-650-738-11 A SIDE

A Side is the same as Component Side.

# CN-893 BOARD

B SIDE

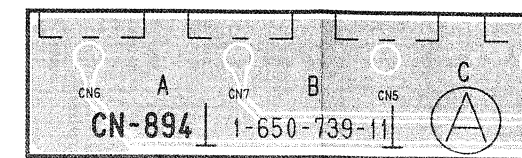


1-650-738-11 B SIDE

B Side is the same as Solder Side.

# CN-894 BOARD

A SIDE



1-650-739-11 A SIDE

A Side is the same as Component Side.

# CN-894 BOARD

B SIDE



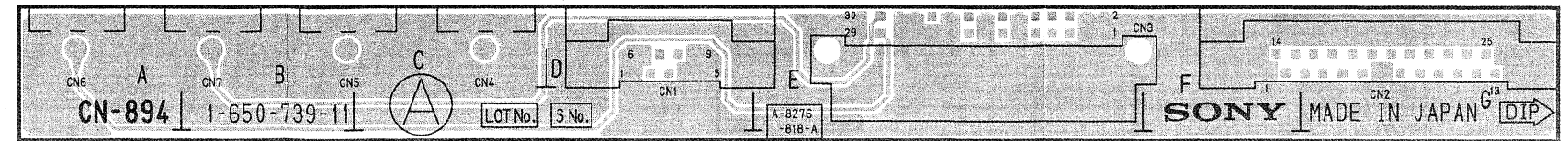
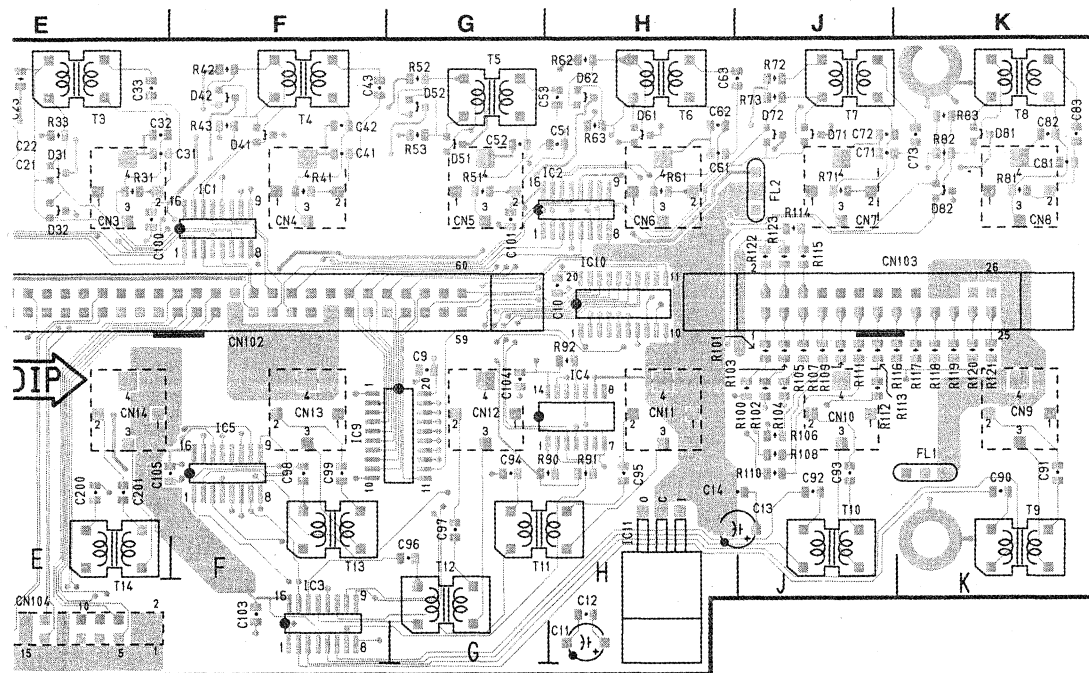
1-650-739-11 B SIDE

B Side is the same as Solder Side.



## CN-894 BOARD

## A SIDE

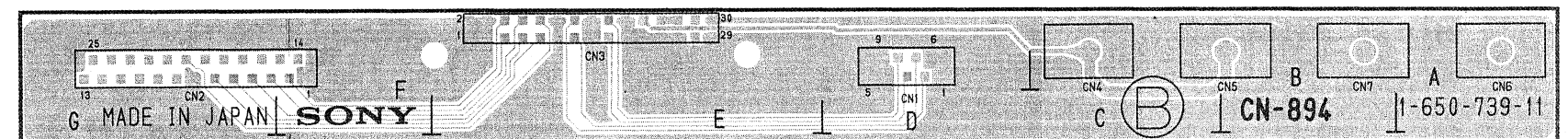
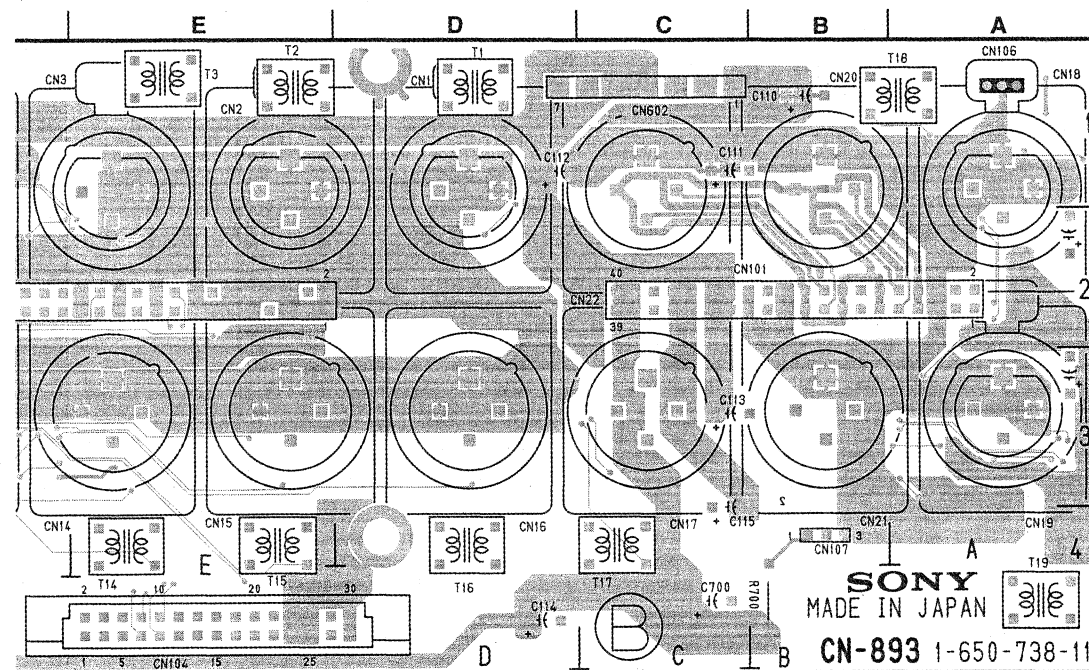


1-650-739-11 A SIDE

A Side is the same as Component Side.

## CN-894 BOARD

## B SIDE

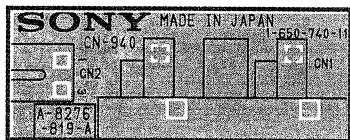


1-650-739-11 B SIDE

B Side is the same as Solder Side.

## CN-940 BOARD

### A SIDE

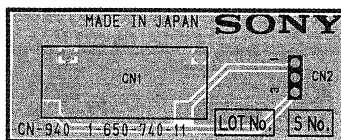


1-650-740-11 A SIDE

A Side is the same as Component Side.

## CN-940 BOARD

### B SIDE

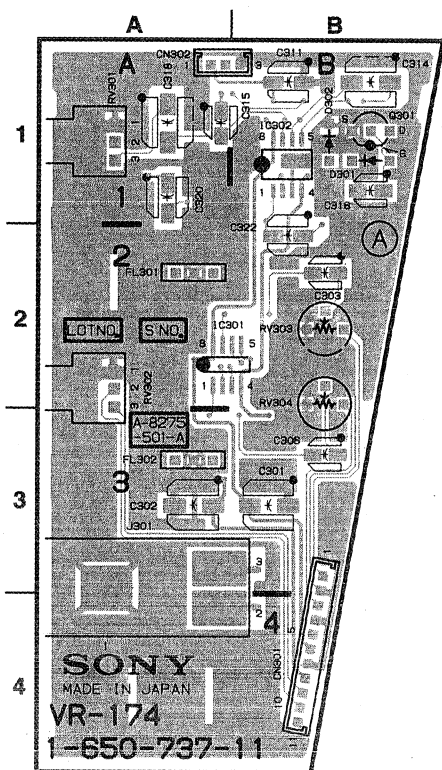


1-650-740-11 B SIDE

B Side is the same as Solder Side.

## VR-174 BOARD

### A SIDE

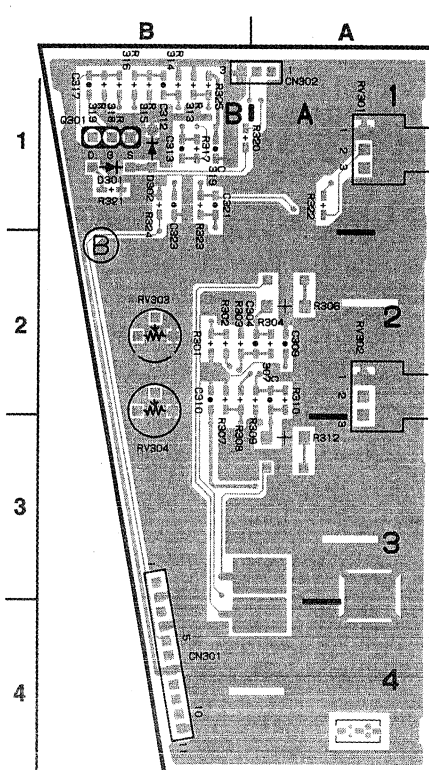


1-650-737-11 A SIDE

A Side is the same as Component Side.

## VR-174 BOARD

### B SIDE



1-650-737-11 B SIDE

B Side is the same as Solder Side.

### DMX-E2000

#### VR-174 (1-650-737-11)

CN301 B-4  
CN302 A-1

D301 B-1  
D302 B-1

FL301 A-2  
FL302 A-3

IC301 A-2  
IC302 B-1

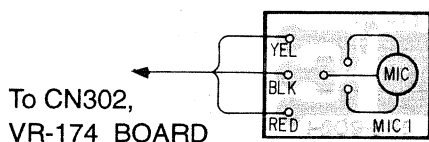
J301 A-3

Q301 B-1

RV301 A-1  
RV302 A-2  
RV303 B-2  
RV304 B-2

## MIC BOARD

### COMPONENT SIDE



1-609-885-11 COMPONENT SIDE

**SECTION 4**  
**SCHEMATIC DIAGRAMS**

Board Name	Function	PAGE
ASW-32	ASSIGN SWITCH BOARD	4-2
CN-893	CONNECTOR BOARD	4-19
CN-894	CONNECTOR BOARD	4-20
CN-940	CONNECTOR BOARD	4-20
MIX-17	MIXING BOARD	4-3
MT-92	METER BOARD	4-16
SW-644	SWITCH BOARD	4-18
VR-174, MIC	VOLUME CONTROL BOARD	4-20



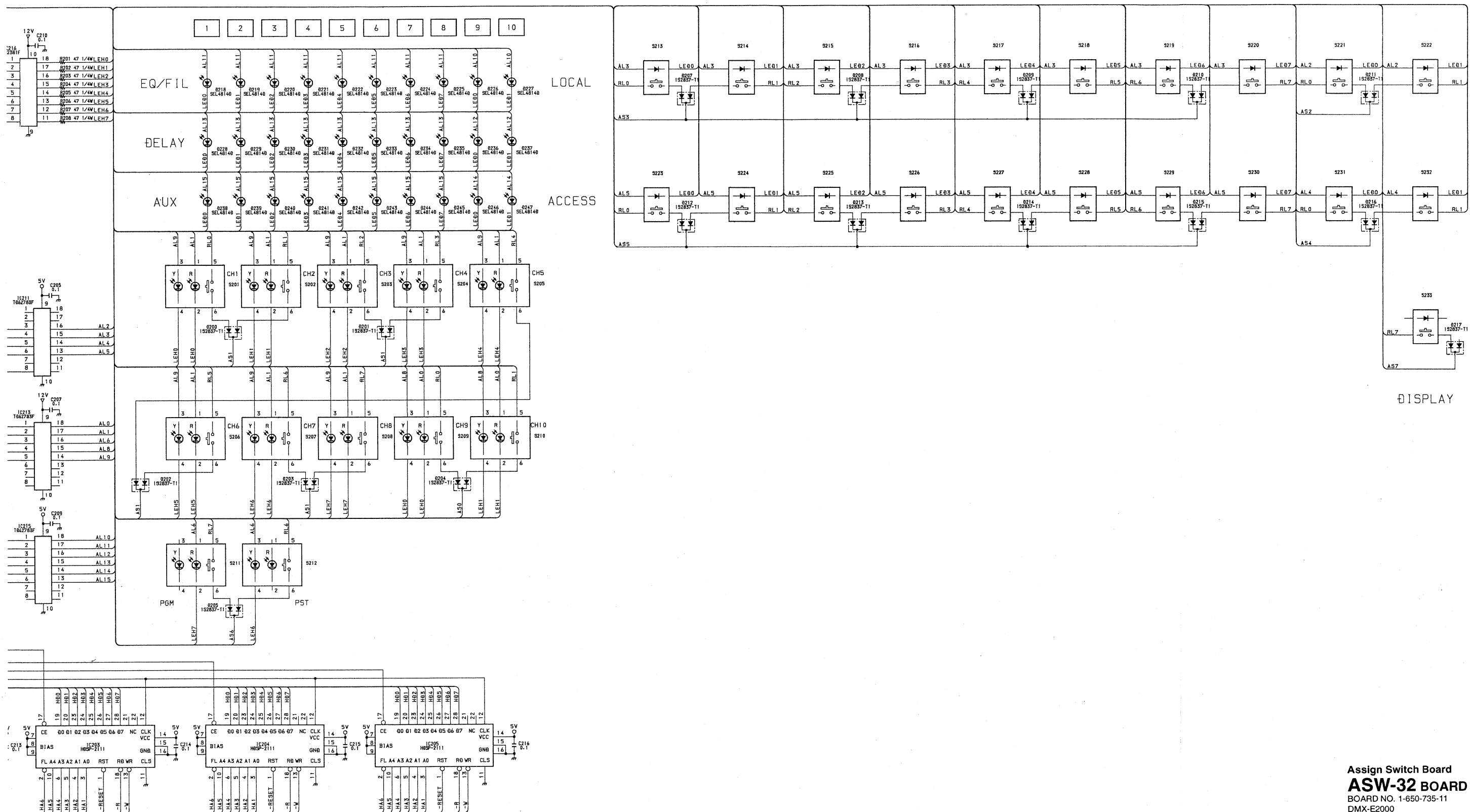
1



3

4

5



Assign Switch Board  
**ASW-32 BOARD**  
 BOARD NO. 1-650-735-11  
 DMX-E2000



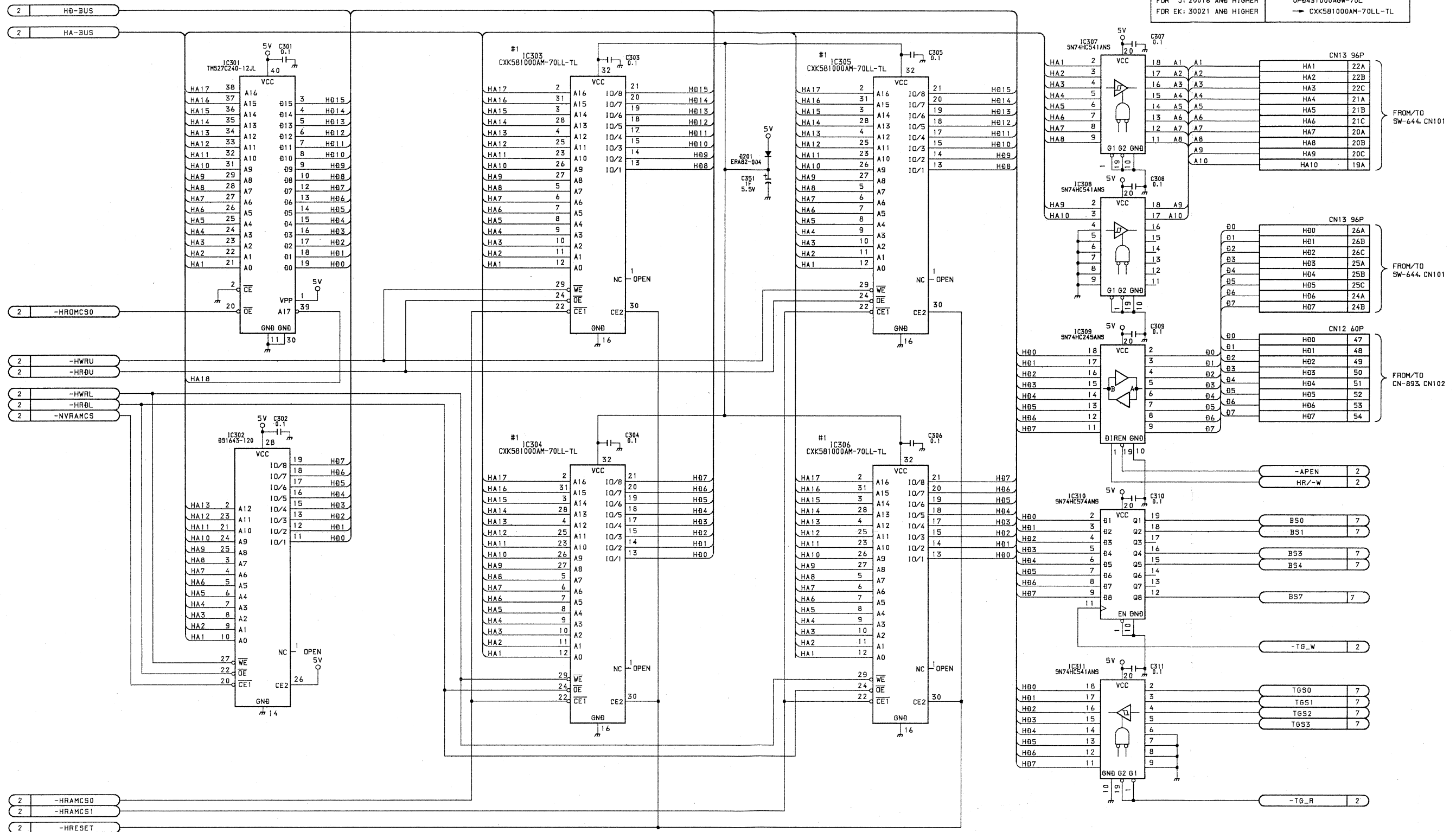
1  
—  
2  
—  
3  
—  
4  
—  
5



- 4



#1:CHANGED INFORMATION	
APPLIED SERIAL No.	PARTS THAT HAVE BEEN CHANGED.
FOR UC: 10006 AND HIGHER	IC303, IC304, IC305, IC306
FOR J: 20016 AND HIGHER	UP0431000AGW-70L
FOR EK: 30021 AND HIGHER	→ CKX581000AM-70LL-TL

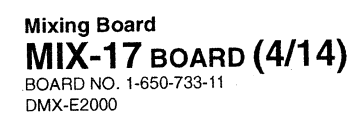


**Mixing Board**  
**MIX-17 BOARD (3/14)**  
BOARD NO. 1-650-733-11  
DMX-E2000

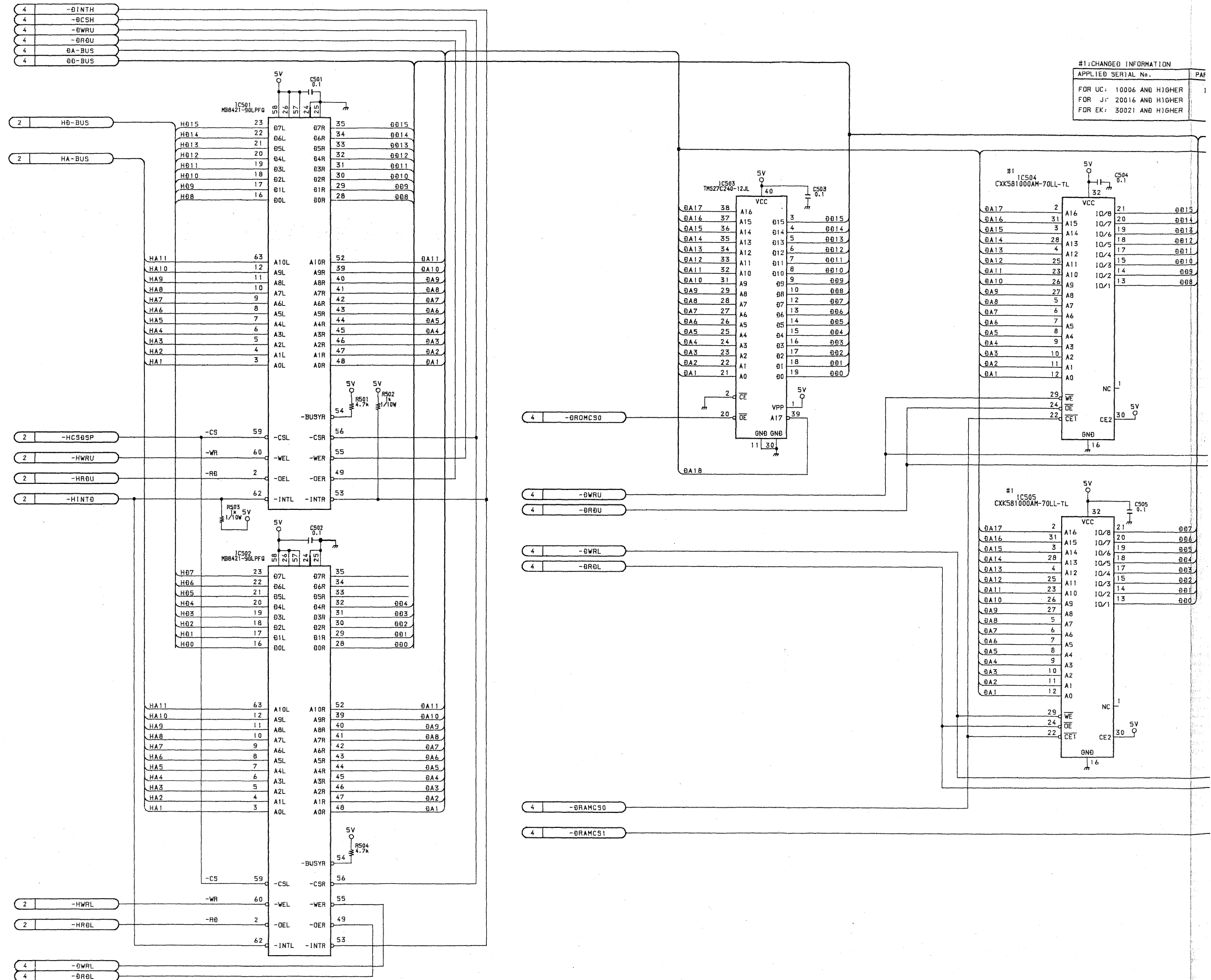
IC403 (5/7)  
TC74HC07AF

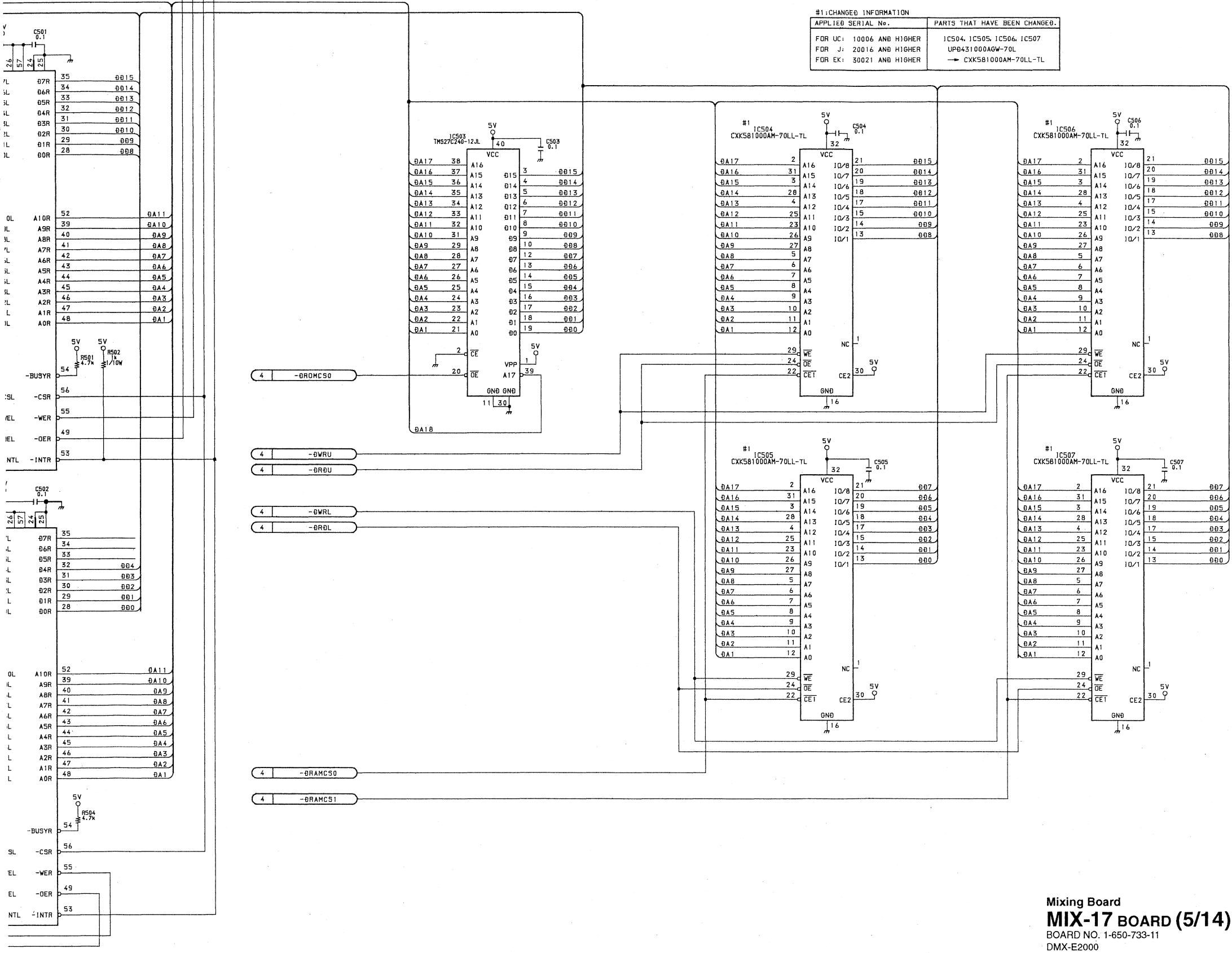
11 10  
13 12  
m

IC403 (6/7)  
TC74HC07AF



## MIX-17 BOARD (5/14)





Mixing Board  
**MIX-17 BOARD (5/14)**  
BOARD NO. 1-650-733-11  
DMX-E2000

1



3

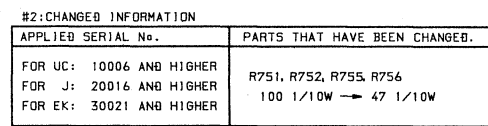
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5







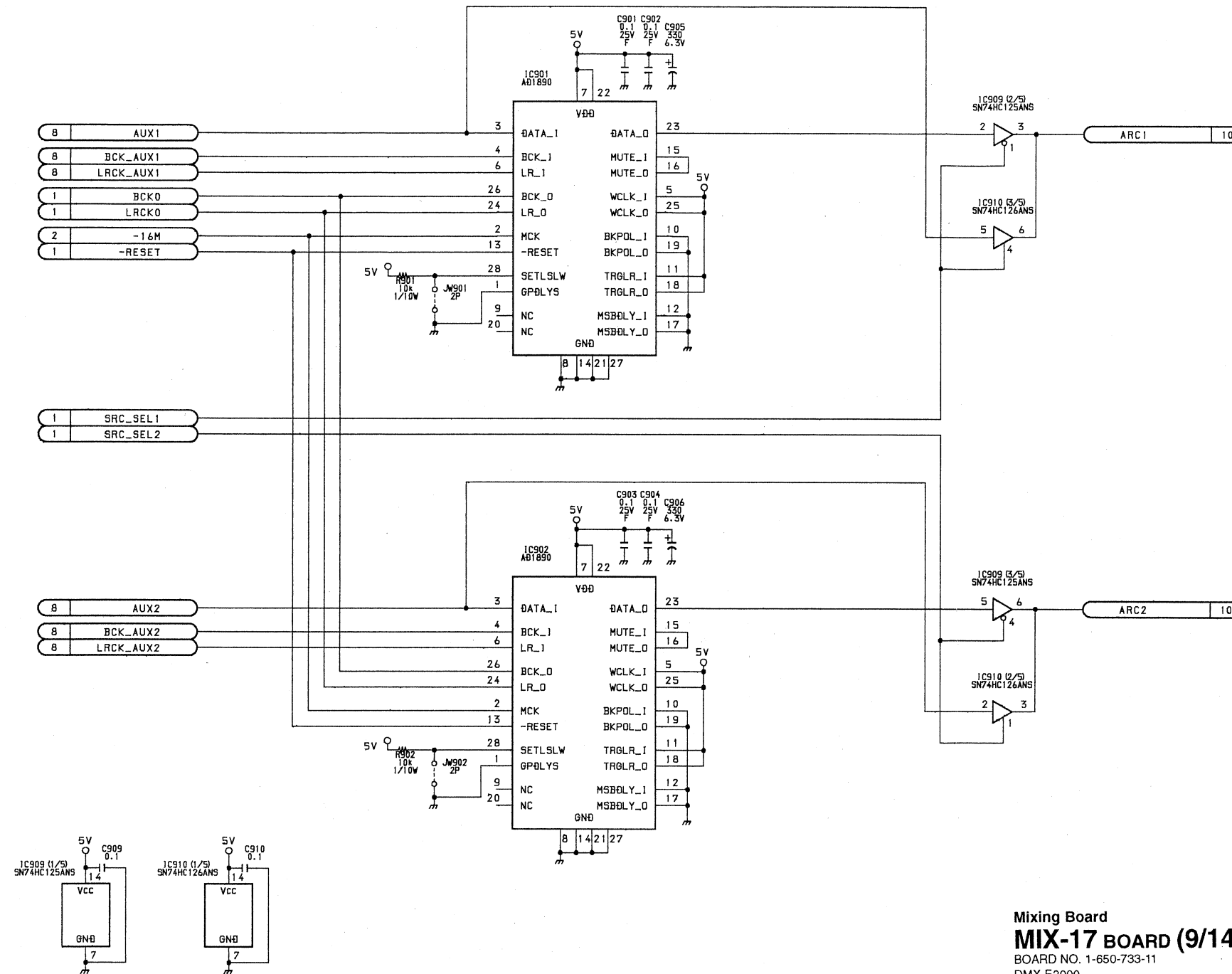


4 - 9

## 5



**MIX-17 BOARD (9/14)**



### Mixing Board

### MIX-17 BOARD (9/14)

BOARD NO. 1-650-733-11  
DMX-E2000

8	P1	P1
8	P2	P2
8	P3	P3
8	P4	P4
8	P5	P5
8	P6	P6
8	P7	P7
8	P8	P8
9	ARC1	ARC1
9	ARC2	ARC2

1	LRCK0	LRCK0
1	BCK0	BCK0
1	LRCK1	LRCK1
1	BCK1	BCK1

1	MCK0	MCK0
1	MCK1	MCK1
1	MCK2	MCK2

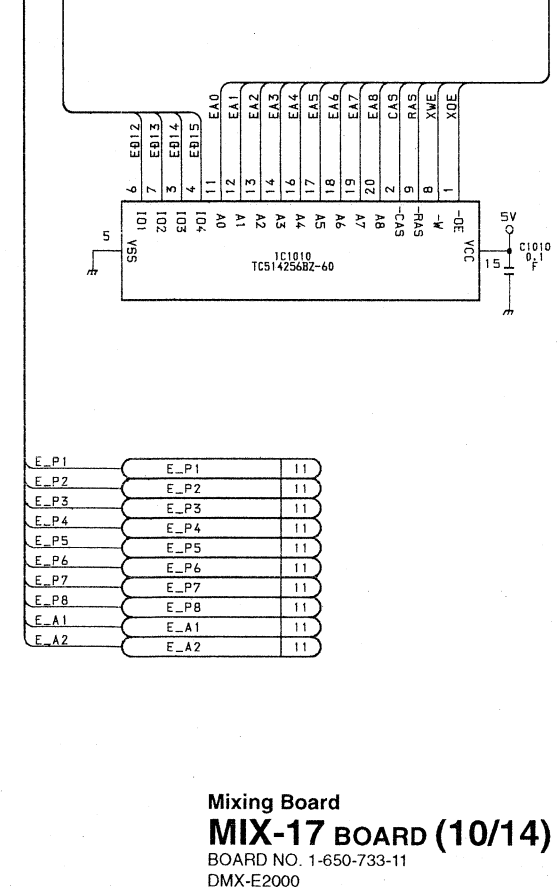
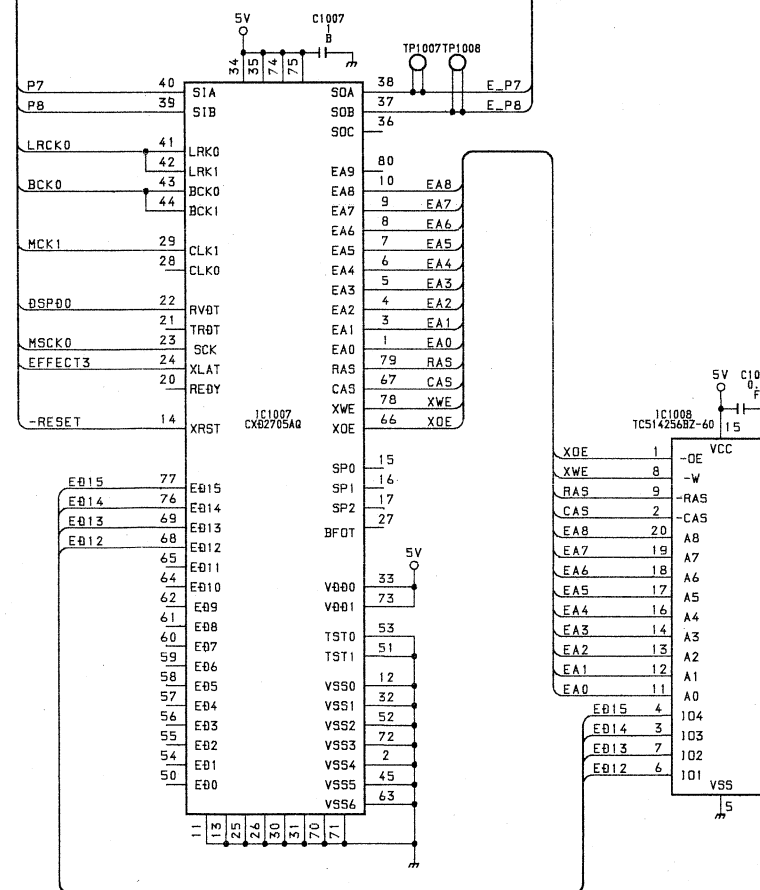
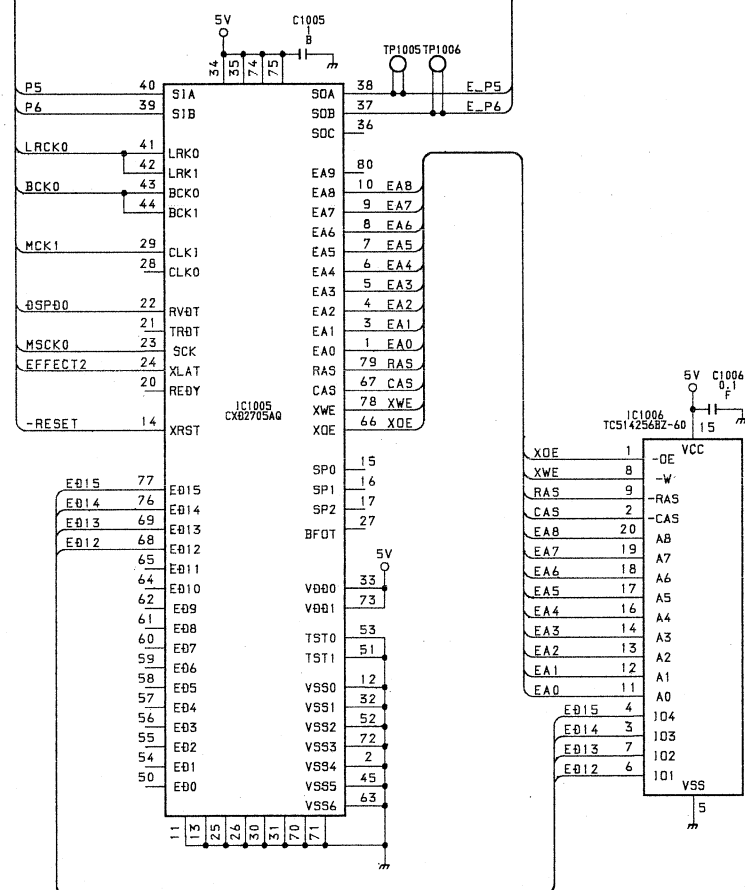
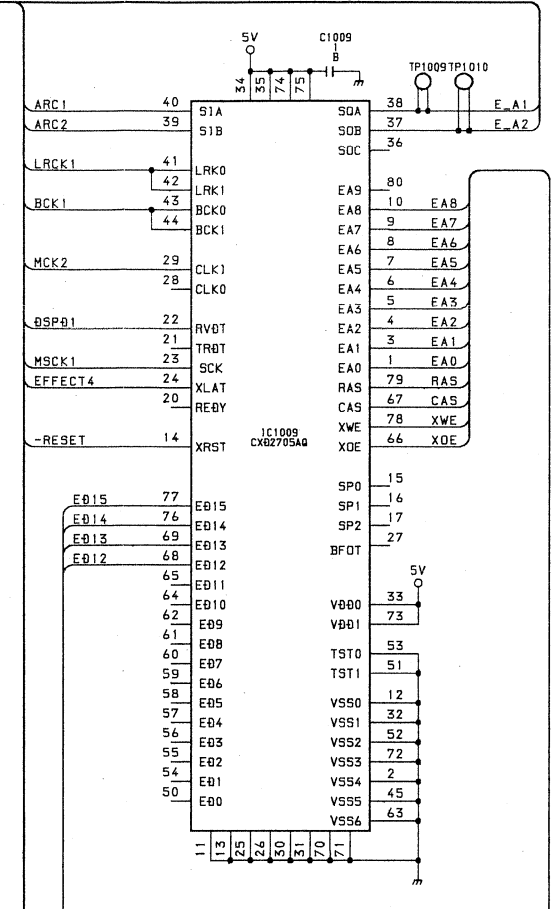
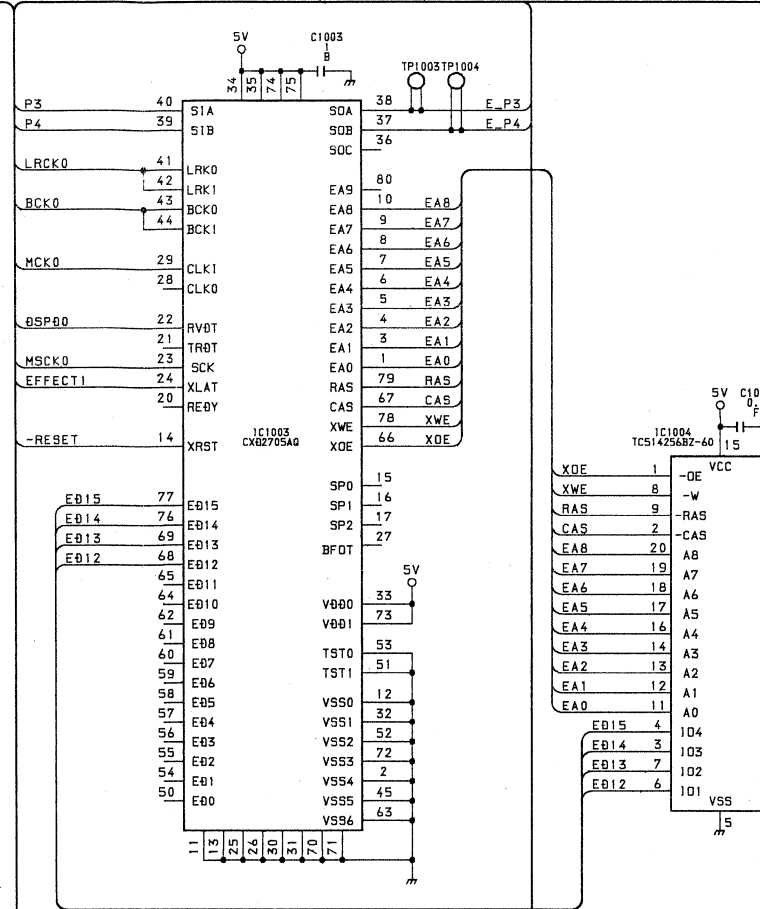
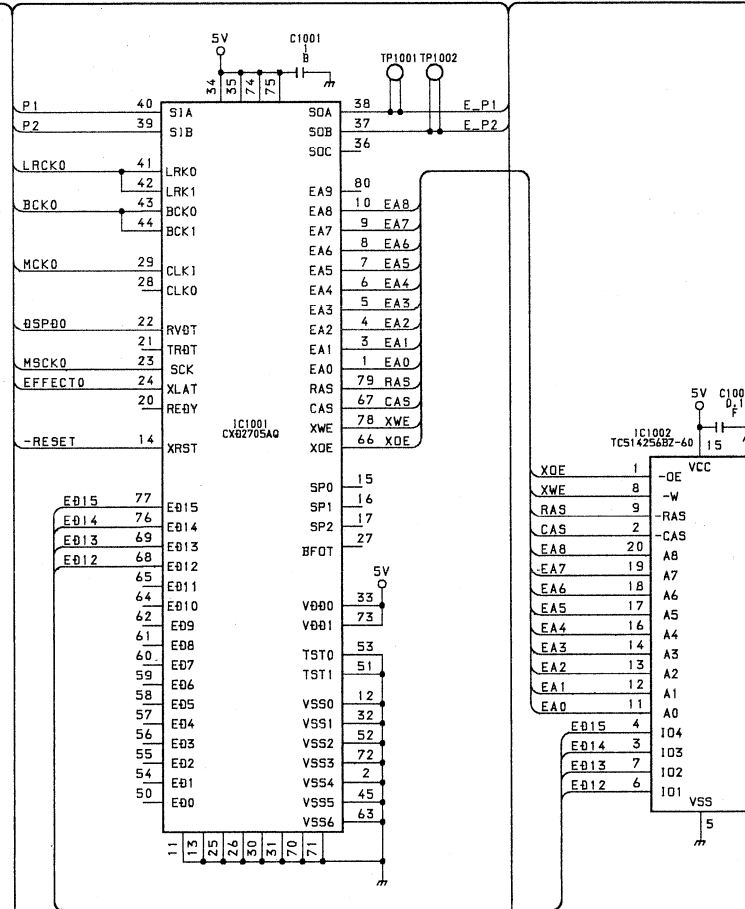
1	EFFECT0	EFFECT0
1	EFFECT1	EFFECT1
1	EFFECT2	EFFECT2
1	EFFECT3	EFFECT3
1	EFFECT4	EFFECT4

1	MSCK0	MSCK0
1	MSCK1	MSCK1
1	QSP00	QSP00
1	QSP01	QSP01

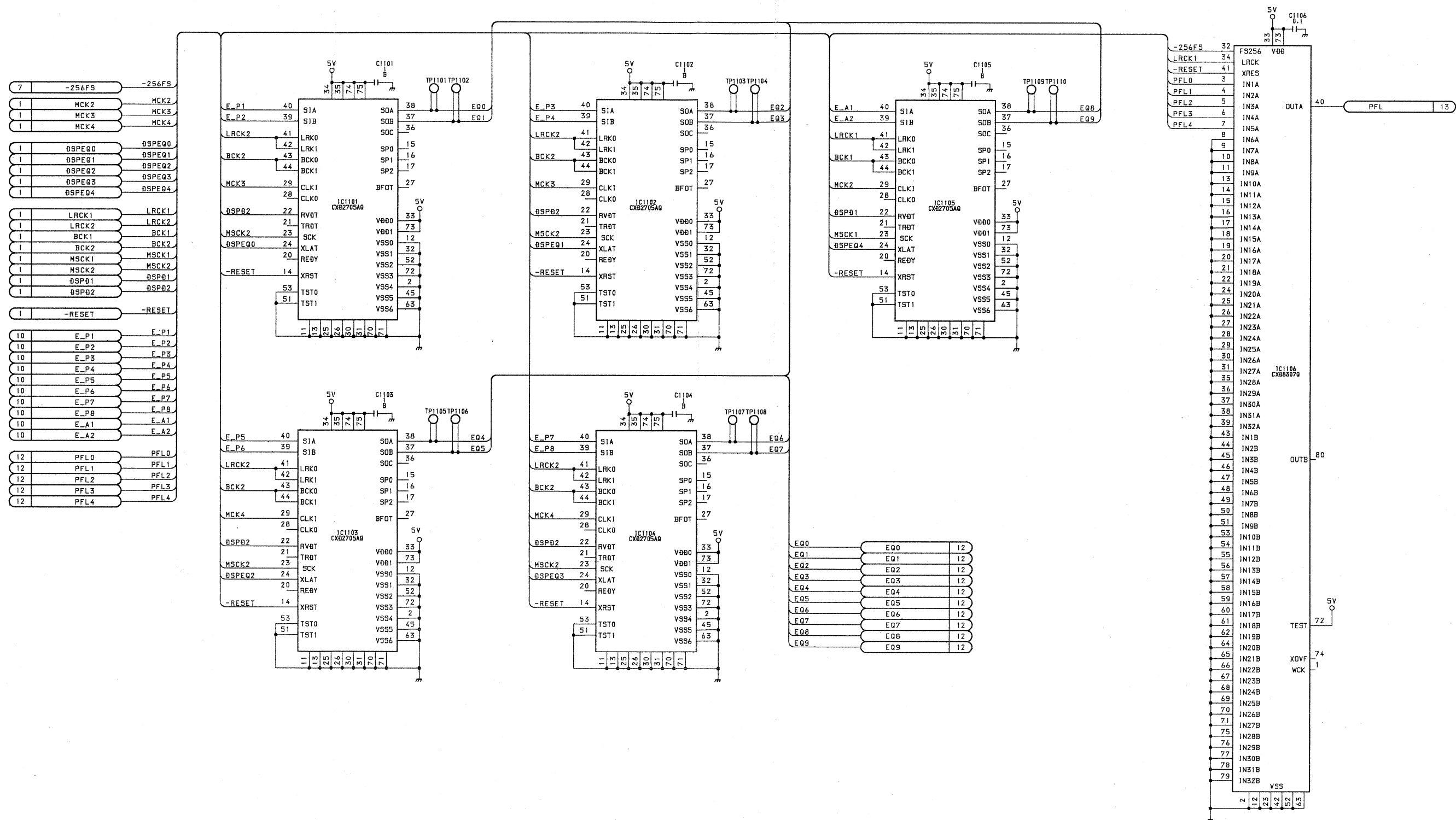
  

1	-RESET	-RESET
---	--------	--------



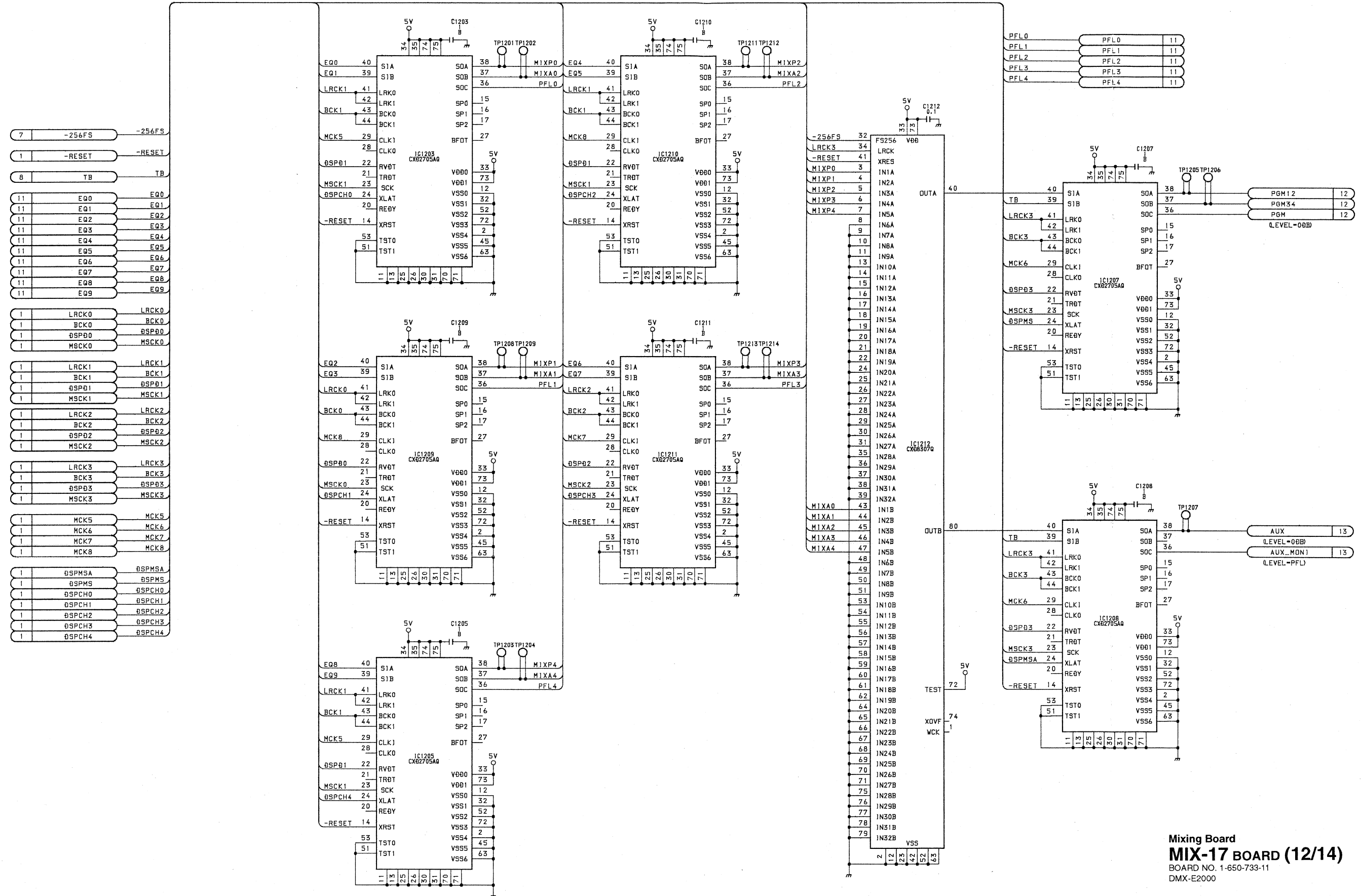
A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

**MIX-17 BOARD (11/14)**



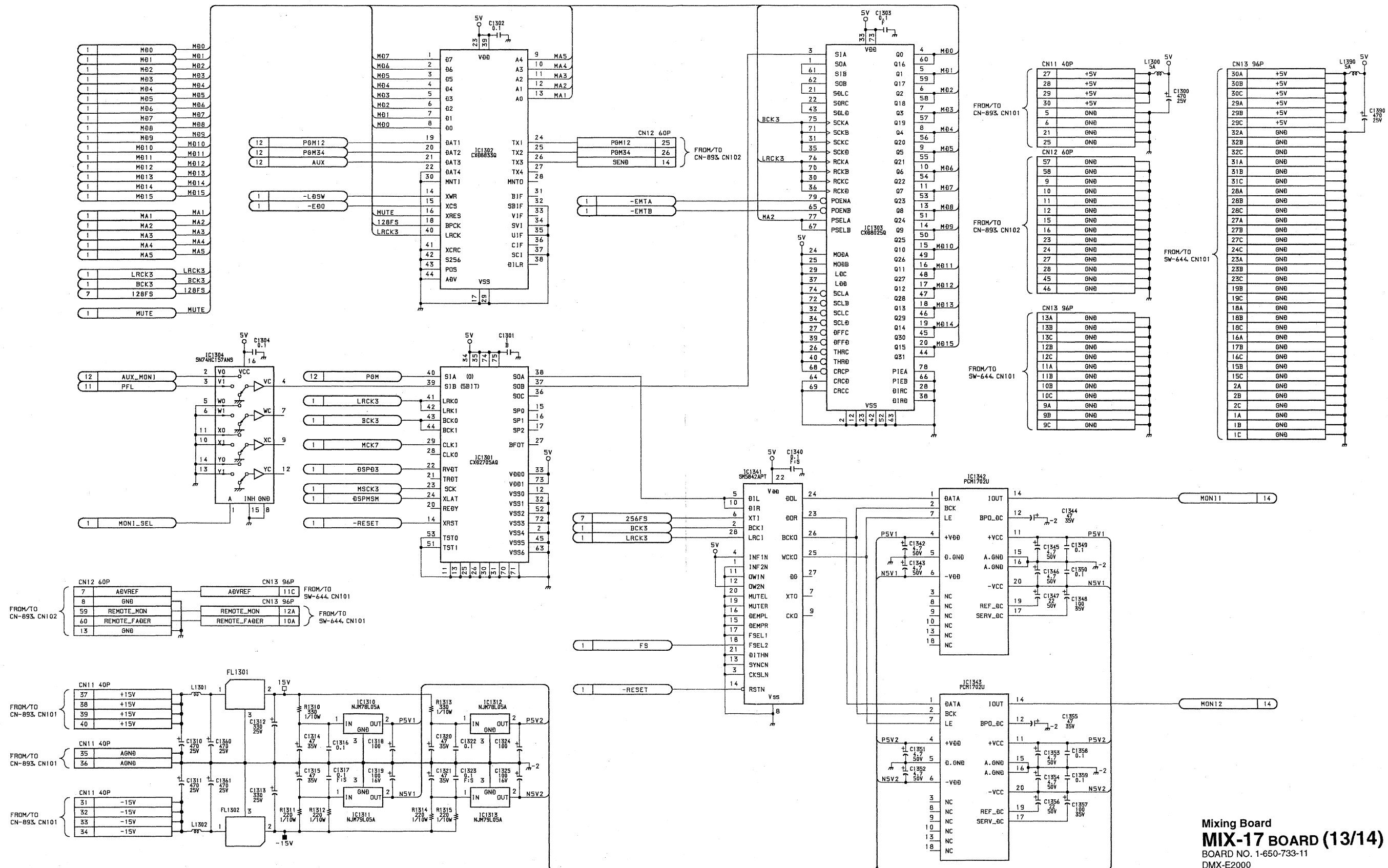
**Mixing Board**  
**MIX-17 BOARD (11/14)**  
 BOARD NO. 1-650-733-11  
 DMX-E2000

## MIX-17 BOARD (12/14)



Mixing Board  
**MIX-17 BOARD (12/14)**  
 BOARD NO. 1-650-733-11  
 DMX-E2000

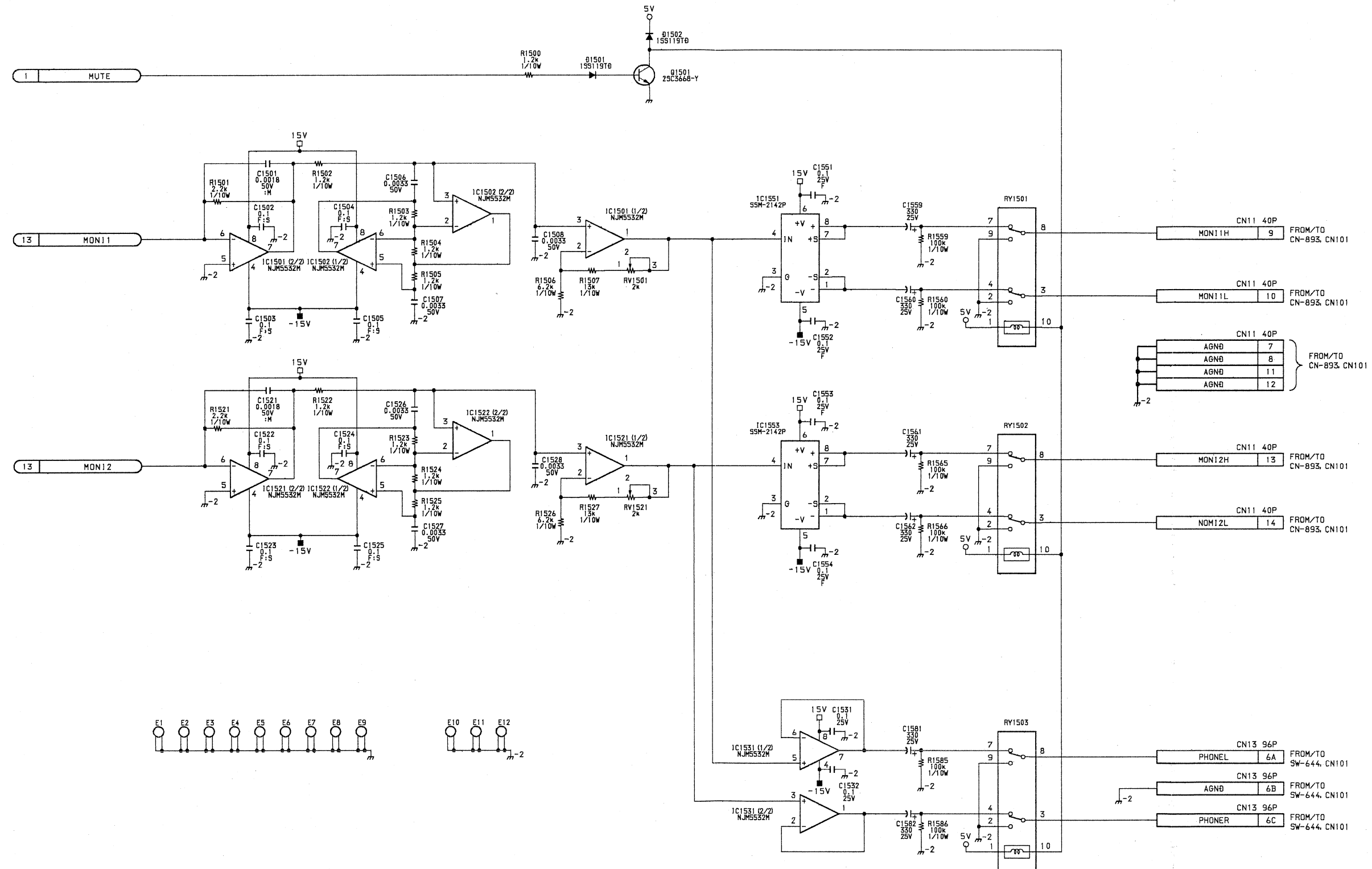
**MIX-17 BOARD (13/14)**



**Mixing Board**  
**MIX-17 BOARD (13/14)**  
BOARD NO. 1-650-733-11  
DMX-E2000



**MIX-17 BOARD (14/14)**

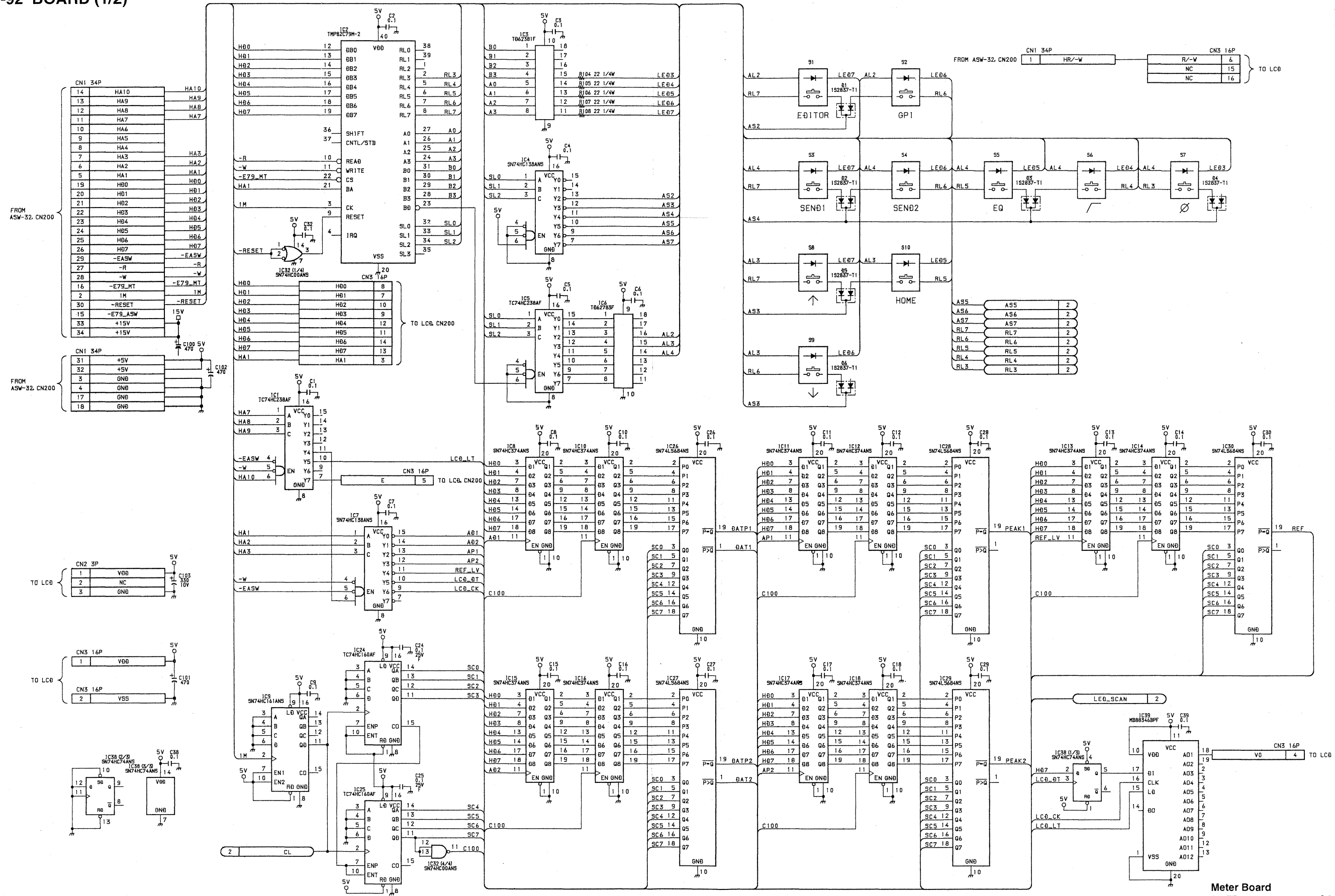


**Mixing Board**  
**MIX-17 BOARD (14/14)**  
 BOARD NO. 1-650-733-11  
 DMX-E2000

The following table shows the results of the regression analysis for the dependent variable "Number of publications" (Y-axis) and the independent variable "Number of publications" (X-axis). The table is divided into two sections: "Model 1" and "Model 2". The "Model 1" section shows the results for the dependent variable "Number of publications" (Y-axis) and the independent variable "Number of publications" (X-axis). The "Model 2" section shows the results for the dependent variable "Number of publications" (Y-axis) and the independent variable "Number of publications" (X-axis).

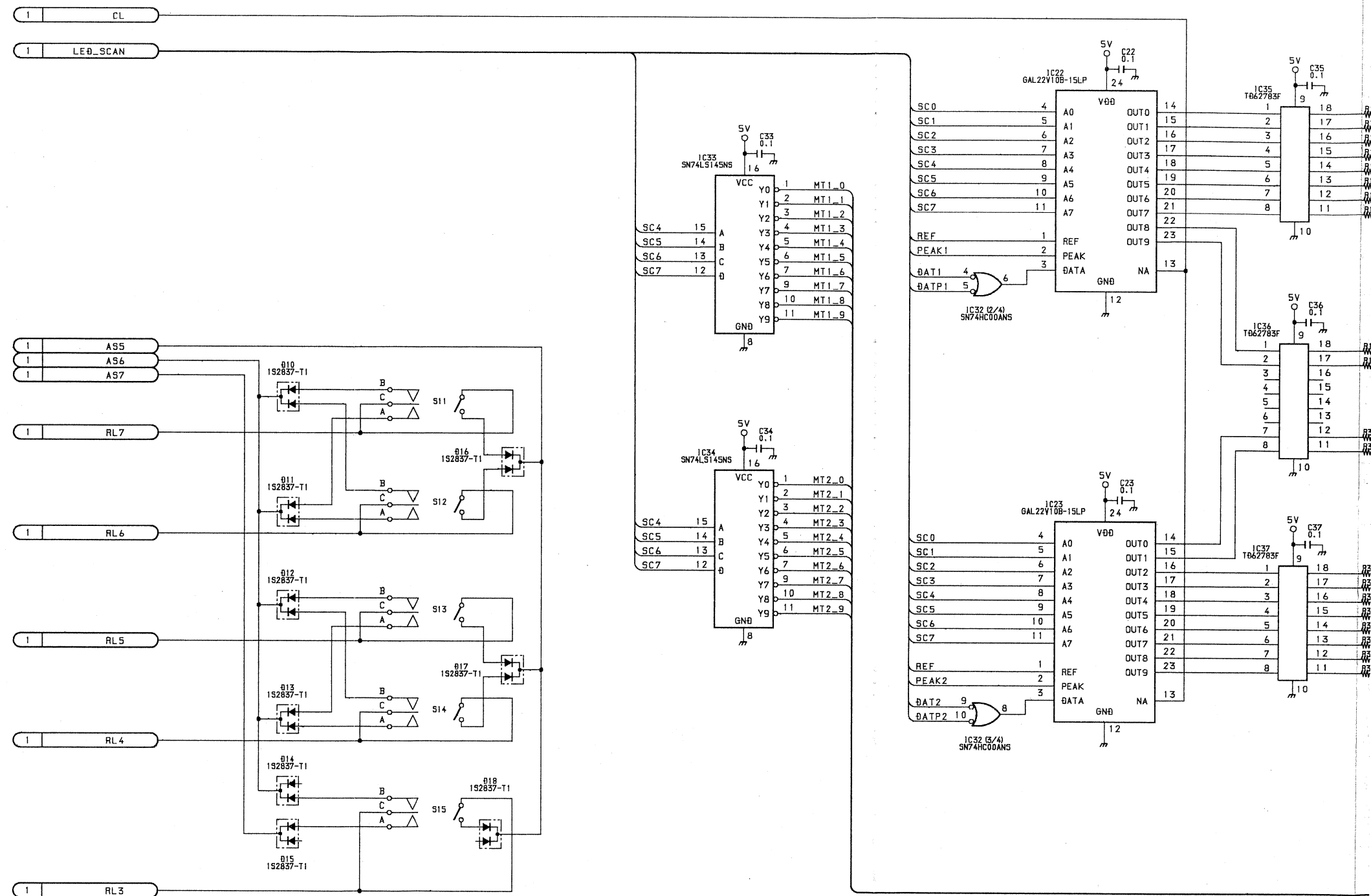
MT-92 (1/2)

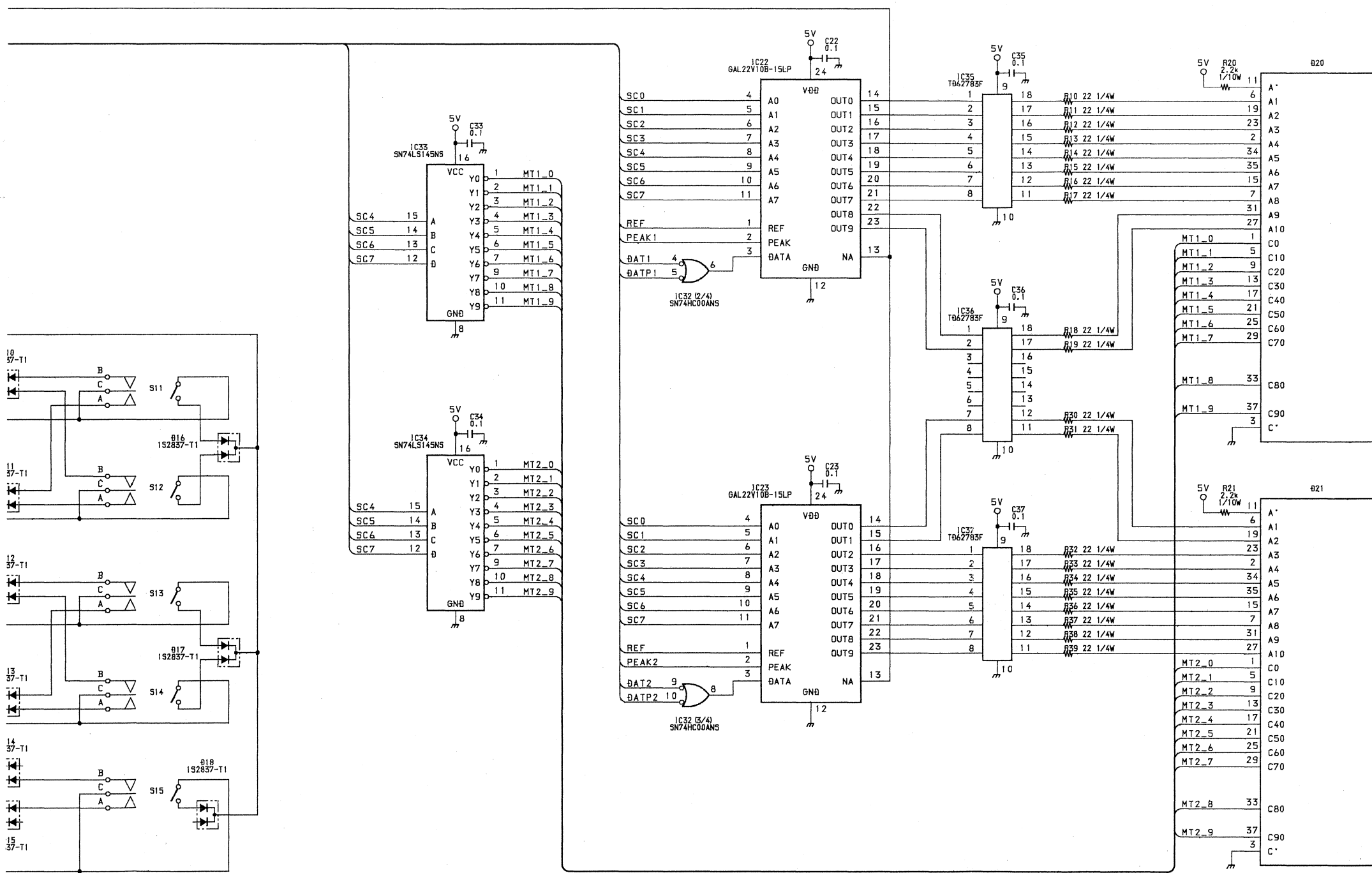
**MT-92 BOARD (1/2)**



**Meter Board**  
**MT-92 BOARD (1/2)**  
BOARD NO. 1-650-734-11  
DMX-E2000

## MT-92 BOARD (2/2)





Meter Board  
**MT-92 BOARD (2/2)**  
BOARD NO. 1-650-734-11  
DMX-E2000

## SW-644 BOARD

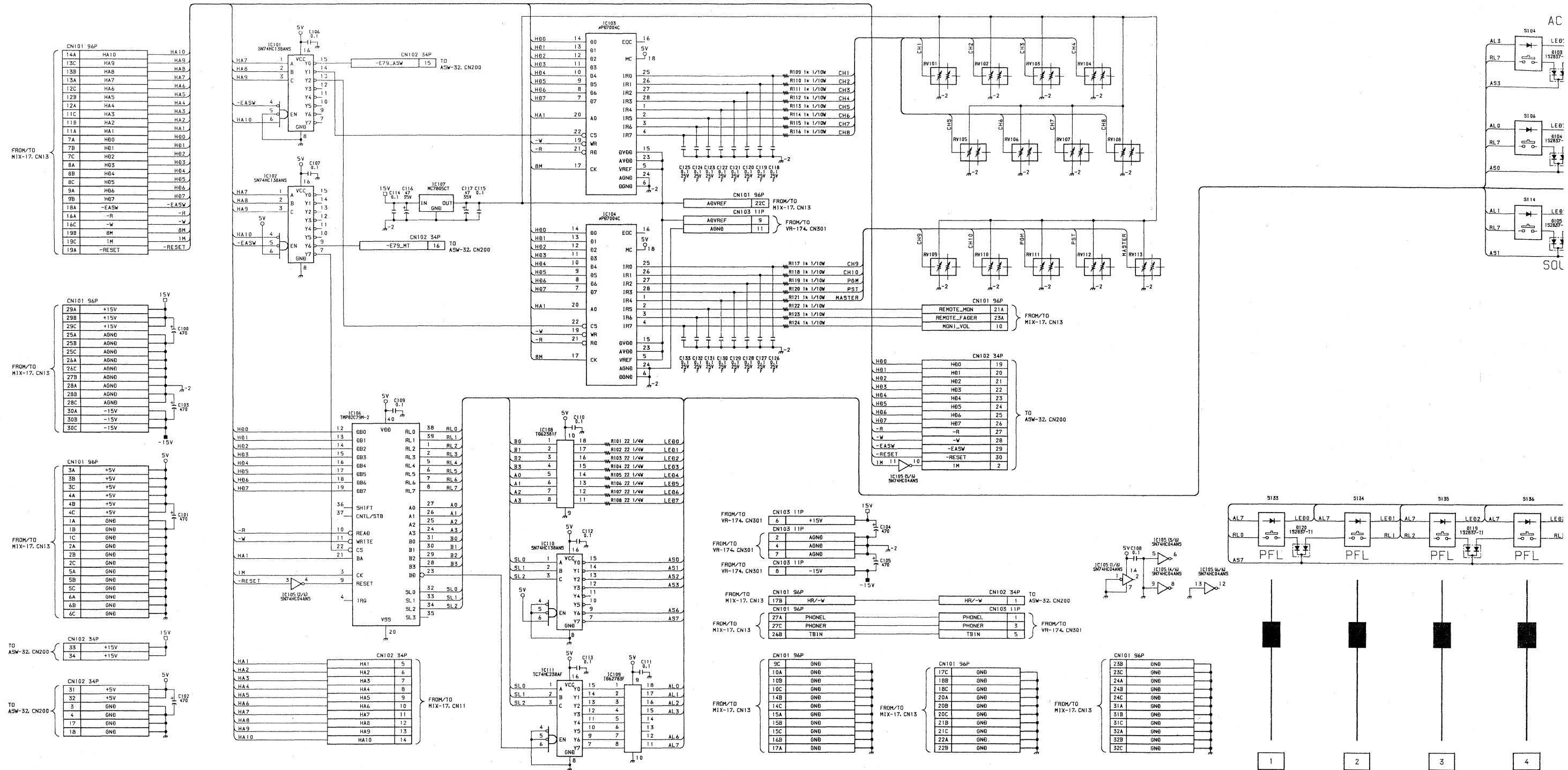
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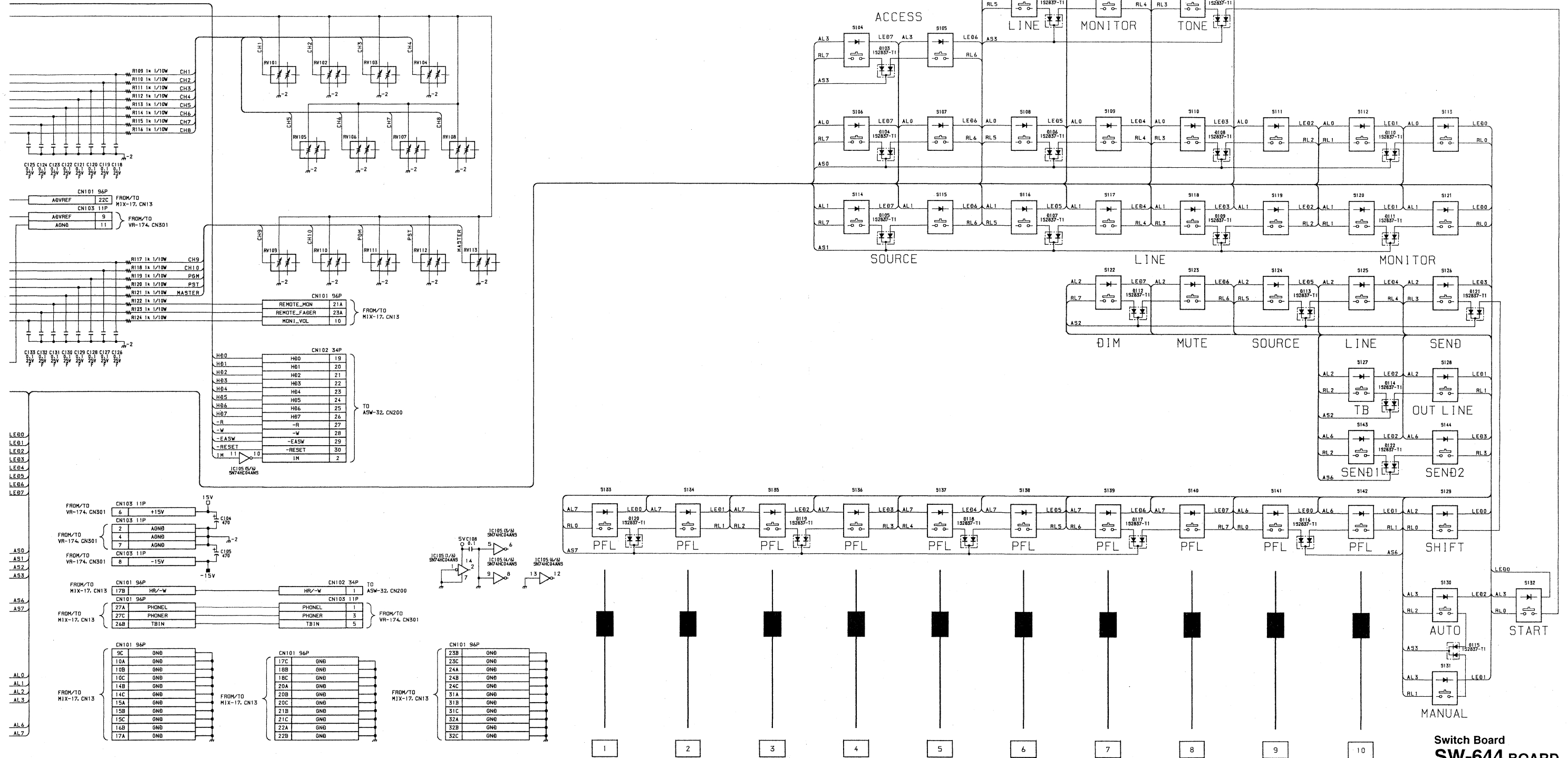
2

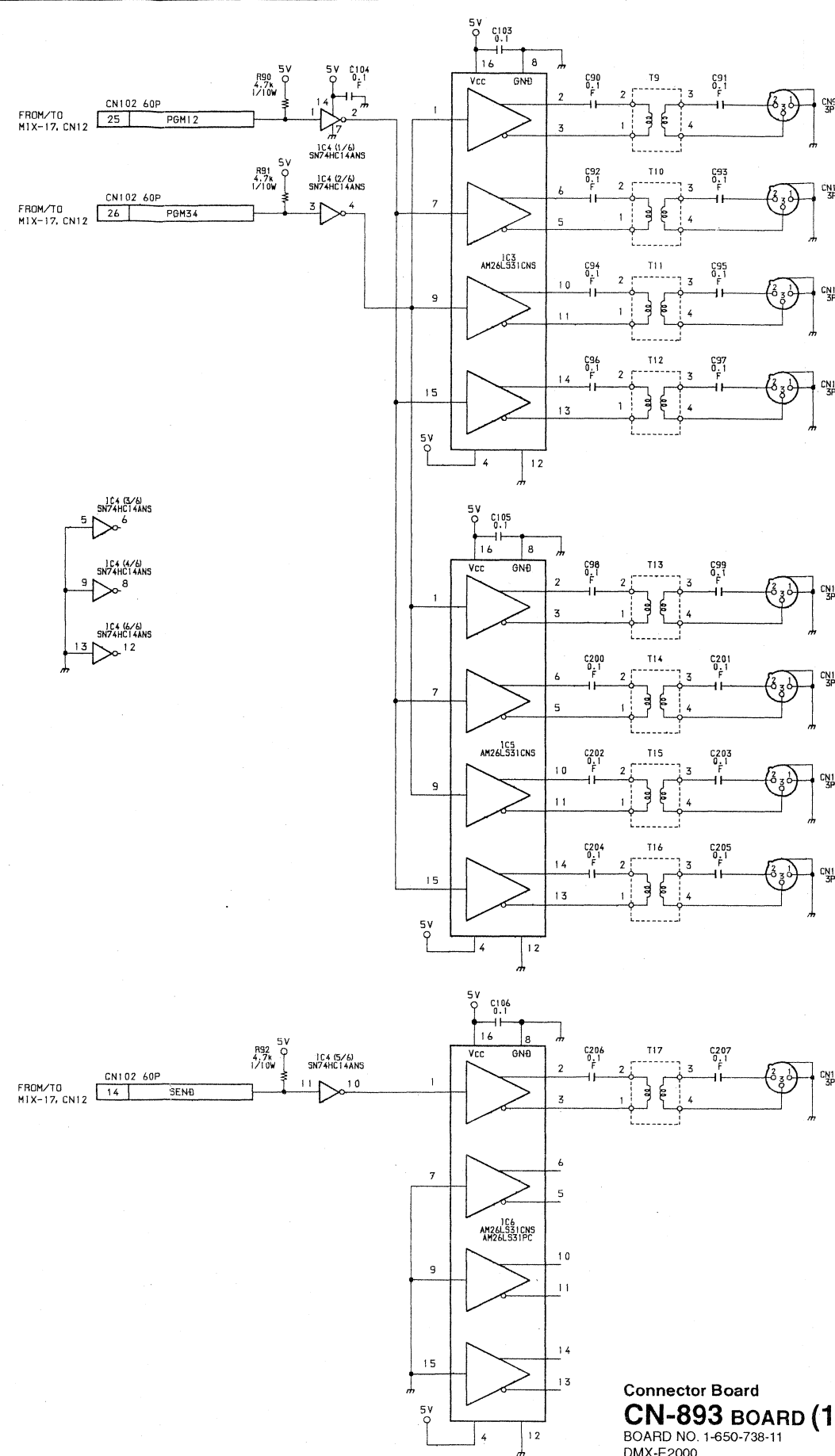
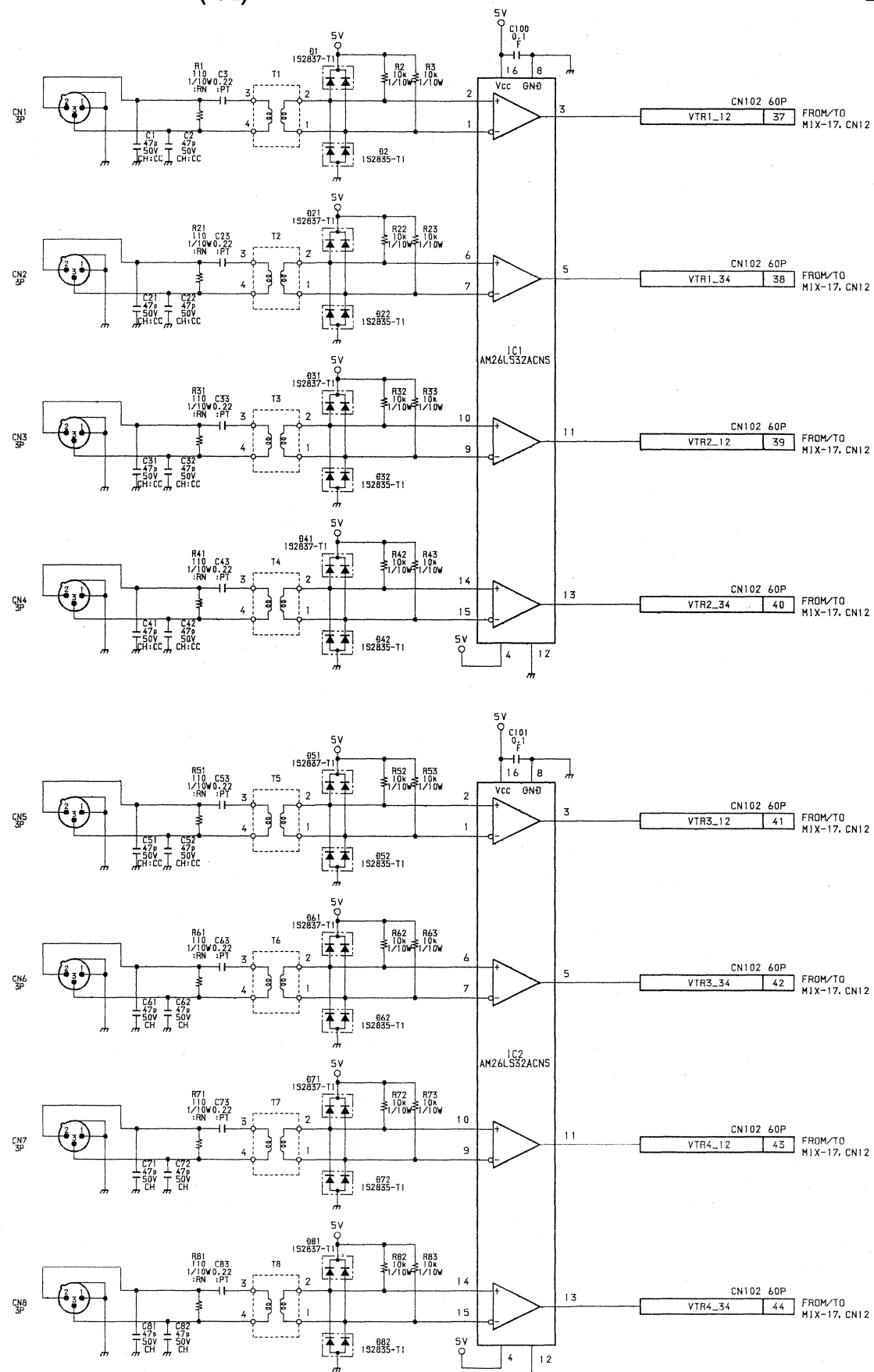
3

4

5

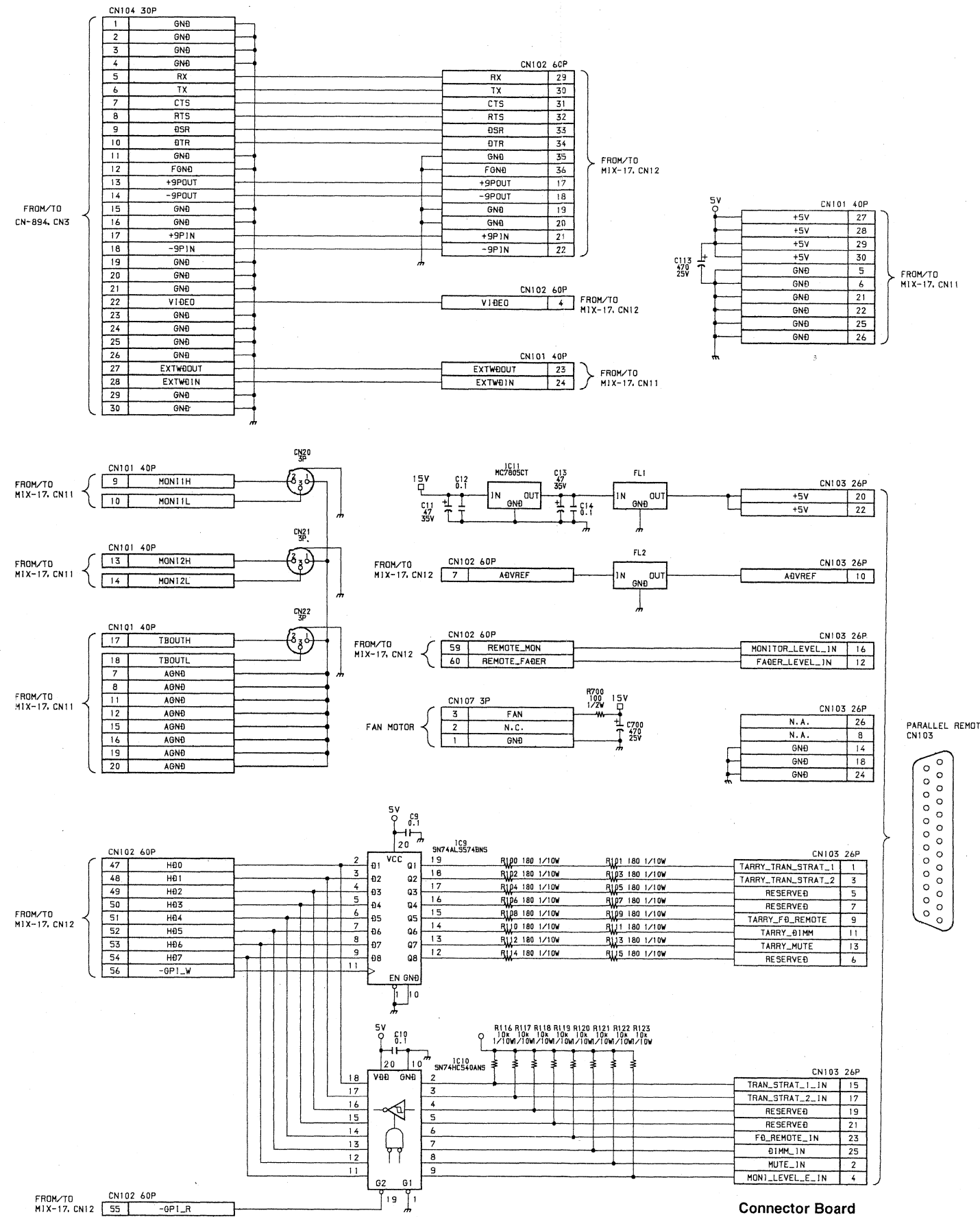






Connector Board  
**CN-893 BOARD (1/2)**  
 BOARD NO. 1-650-738-11  
 DMX-E2000

**CN-893 (2/2)**

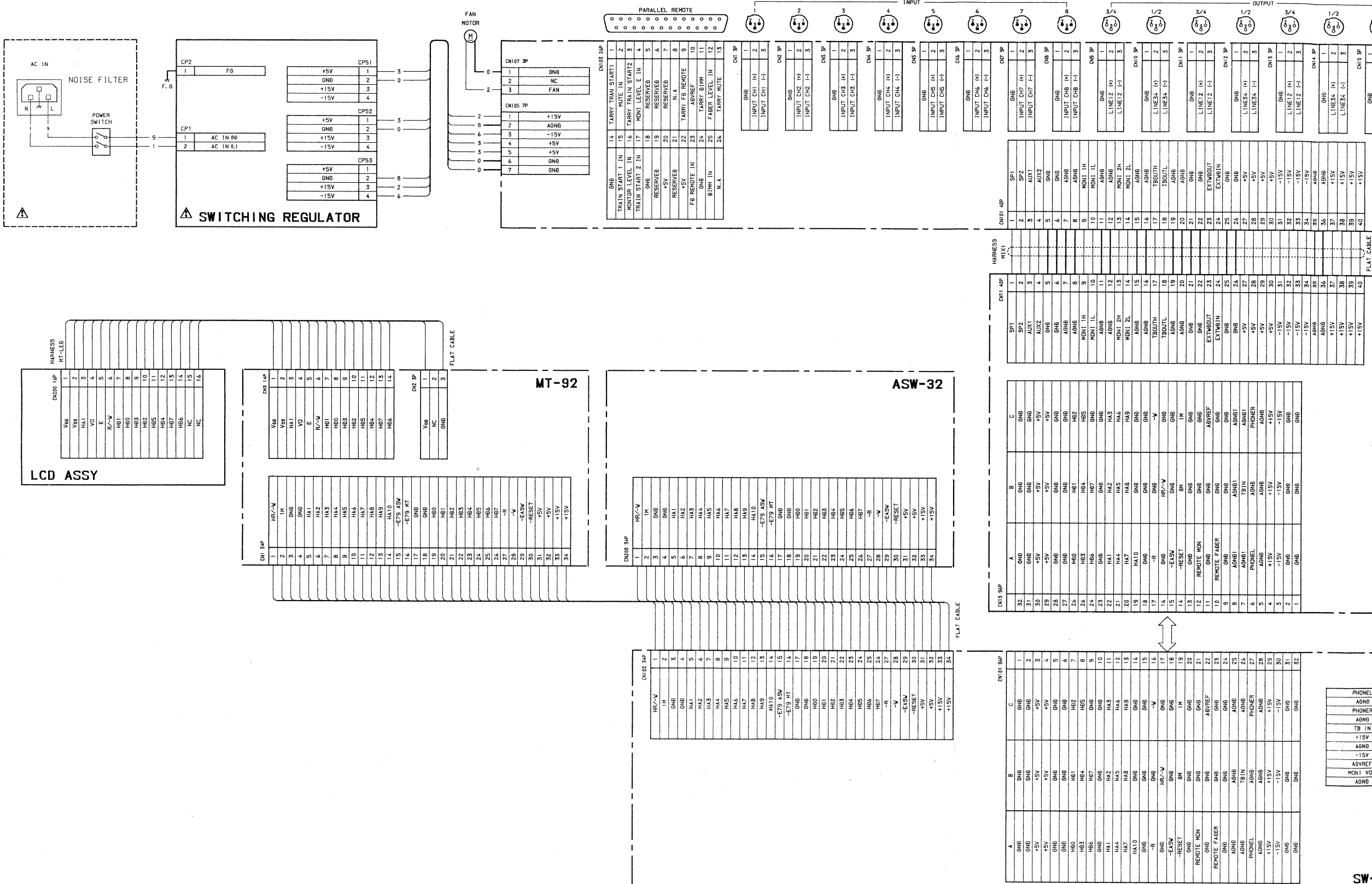


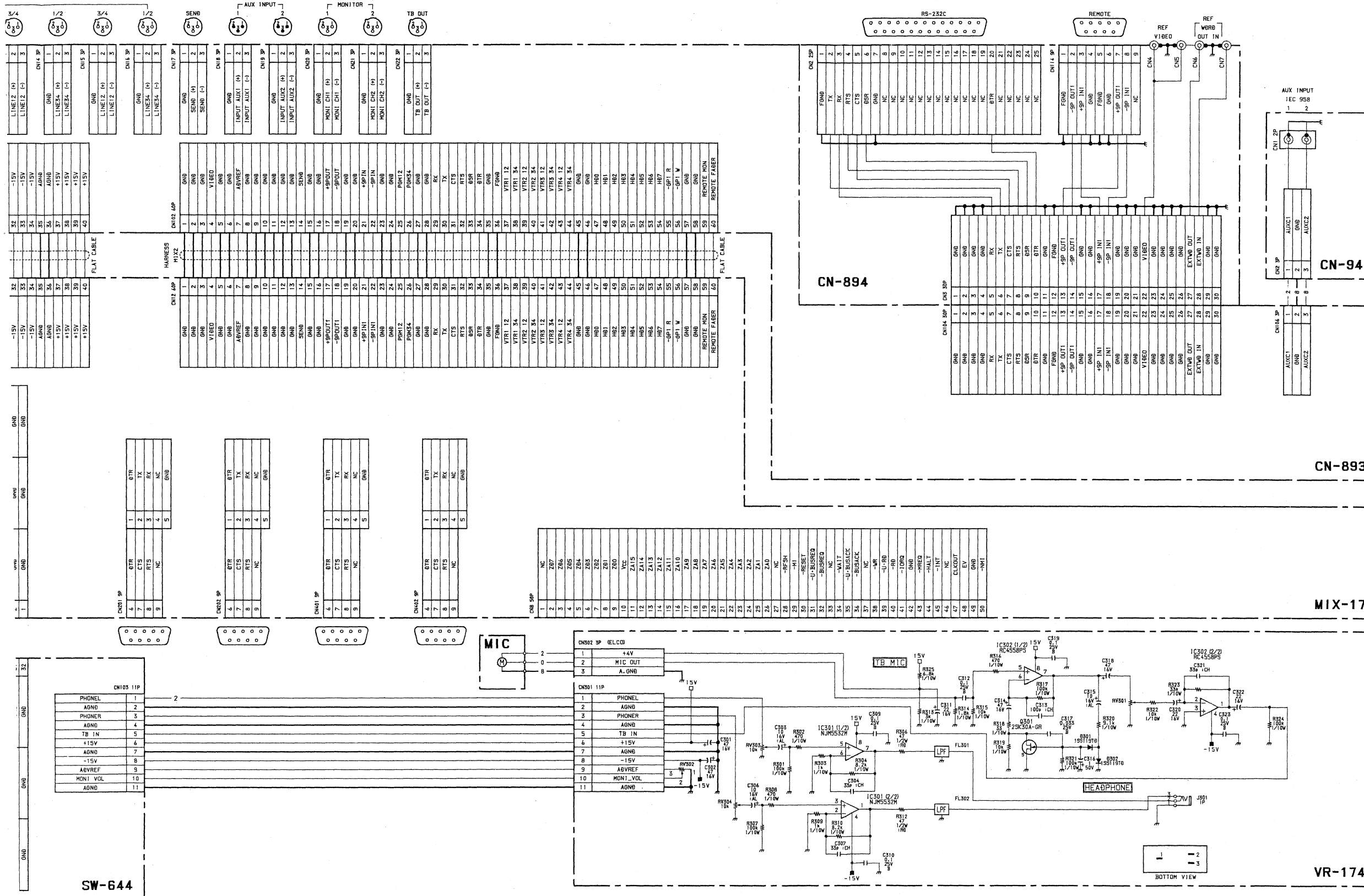
4 - 19



FRAME WIRING

CN-894 BOARD  
CN-940 BOARD  
VR-174 BOARD  
MIC BOARD





## SECTION 5

### SEMICONDUCTOR PIN ASSIGNMENTS

ここに記載されているIC、トランジスタ、ダイオードは、それぞれの機能を等価的に表わしたものです。したがって互換性を表わすものではありません。(互換性のない型名が併記されている事もあります。) 部品の交換をする時は、SPARE PARTSの章を参照して下さい。等価回路はICメーカーのData Bookに従いました。

ICs, transistors and diodes whoses functions are equivalent are described here. Therefore, incompatible device names may be described together. For parts replacement, refer to the Spare Parts section in this manual.

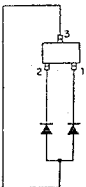
The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

DIODE	PAGE	IC	PAGE	IC	PAGE	IC	PAGE
1S2835 .....	5-2	AD1890JP .....	5-3	SN74HC126ANS .....	5-15	TMP68305F-16 .....	5-21
1S2836 .....	5-2	AM26LS31CNS .....	5-3	SN74HC132ANS .....	5-15	TMP82C79M-2 .....	5-22
1S2837 .....	5-2	AM26LS32ACNS .....	5-4	SN74HC138ANS .....	5-15	TMPZ84C015BF-6 .....	5-24
1SS119 .....	5-2	CX23065A .....	5-4	SN74HC157ANS .....	5-15	TMS27C240-12JL .....	5-25
ERA82-004 .....	5-2	CXD2555Q .....	5-4	SN74HC161ANS .....	5-15	TMS27C256-12JL .....	5-25
ERA85 .....	5-2	CXD2705AQ .....	5-6	SN74HC163ANS .....	5-16	UPC7805H .....	5-11
HDSP-8825 .....	5-2	CXD8025Q .....	5-5	SN74HC165ANS .....	5-16	UPD431000AGW-70L .....	5-26
KV1460 .....	5-2	CXD8278AQ .....	5-6	SN74HC245ANS .....	5-16	UPD43256AGU-10L .....	5-26
MA152WK .....	5-2	CXD8307Q .....	5-8	SN74HC259ANS .....	5-16	UPD43256AGU-10LL .....	5-26
RD??ESB? .....	5-2	DS1643-120 .....	5-8	SN74HC374ANS .....	5-17	UPD5201C .....	5-27
SEL4814D .....	5-2	GAL16V8B-10LP .....	5-9	SN74HC393ANS .....	5-17	UPD7004C .....	5-27
TLG124A .....	5-2	GAL16V8B-7LP .....	5-9	SN74HC540ANS .....	5-17		
TLR123 .....	5-2	GAL22V10B-15LP .....	5-9	SN74HC541ANS .....	5-17		
TLR124 .....	5-2	HDSP-2111 .....	5-9	SN74HC574ANS .....	5-17		
		LM1881M .....	5-10	SN74HCU04ANS .....	5-14		
<b>TRANSISTOR</b>	<b>PAGE</b>	MAX232CWE .....	5-10	SN74LS145NS .....	5-18		
2SA1015 .....	5-3	MB8421-90LPFQ .....	5-10	SN74LS684NS .....	5-18		
2SC1815 .....	5-3	MB88346BPF .....	5-11	SN75123NS .....	5-18		
2SC2785 .....	5-3	MC34051M .....	5-11	SN75124NS .....	5-18		
2SC2785E .....	5-3	MC74F04M .....	5-11	SSM-2142P .....	5-18		
2SC3668 .....	5-3	MC74F32M .....	5-11	TA7805S .....	5-18		
		MC7805CT .....	5-11	TA7812S .....	5-18		
2SJ105 .....	5-3	MC79L12CP .....	5-11	TC4011UBP .....	5-18		
2SK30A .....	5-3	NJM5532M .....	5-12	TC514256BZ-60 .....	5-19		
		NJM78L05A .....	5-12	TC74AC08F .....	5-19		
		NJM78L12A .....	5-12	TC74AC74F .....	5-14		
		NJM79L05A .....	5-11	TC74AC163F .....	5-16		
		RC4558PS .....	5-12	TC74AC175F .....	5-19		
		RC5532M .....	5-12	TC74AC541F .....	5-17		
		SM5842AP .....	5-12	TC74HC07AF .....	5-19		
		SM5842APT .....	5-12	TC74HC123AF .....	5-19		
		SM5843AP1 .....	5-13	TC74HC160AF .....	5-20		
		SN74ALS574BNS .....	5-14	TC74HC238AF .....	5-20		
		SN74HC00ANS .....	5-14	TC74HC390AF .....	5-20		
		SN74HC02ANS .....	5-14	TD62381F .....	5-20		
		SN74HC04ANS .....	5-14	TD62783F .....	5-20		
		SN74HC14ANS .....	5-14	TL082CPS .....	5-22		
		SN74HC32ANS .....	5-14	TL082M .....	5-22		
		SN74HC74ANS .....	5-14	TL084CNS .....	5-22		
		SN74HC125ANS .....	5-15	TL7705ACPS .....	5-22		

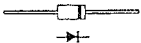
DIODE

DIODE

ISCALE 4/11  
TOP VIEW



1S2835  
1S2836



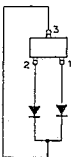
ERA85

-- TOP VIEW --

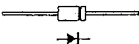


KV1460

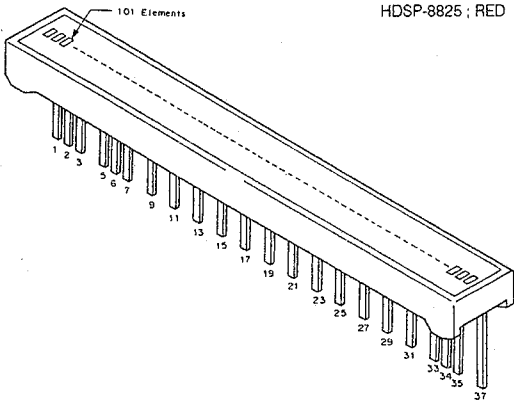
ISCALE 4/11  
TOP VIEW



1S2837  
MA152WK



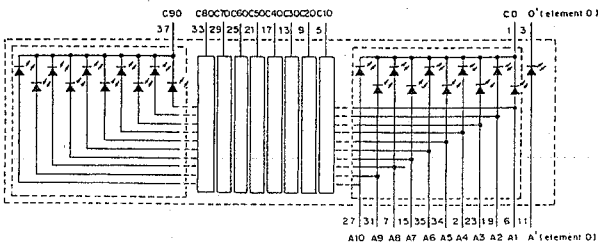
1SS119



HDSP-8825 ; RED



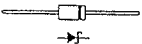
RD ? ? ESB ?



A1 to A10 : Common Anode  
C0 to C90 : Common Cathode



SEL4814D ; ORANGE

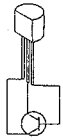


ERA82-004

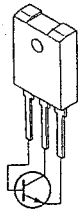


TLG124A ; GREEN  
TLR123 ; RED  
TLR124 ; RED

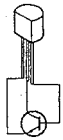
TRANSISTOR



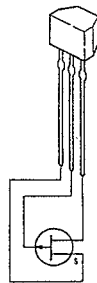
2SA1015



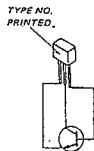
2SC3668



2SC1815

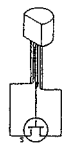


2SJ105



TYPE NO.  
PRINTED.

2SC2785  
2SC2785E

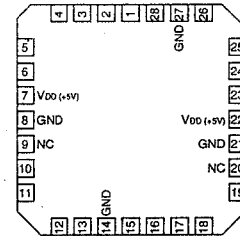


2SK30A

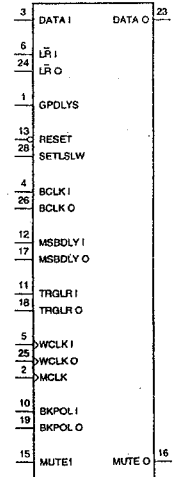
IC

AD1890JP (AD)

STEREO ASYNCHRONOUS SAMPLE RATE CONVERTER  
- TOP VIEW -

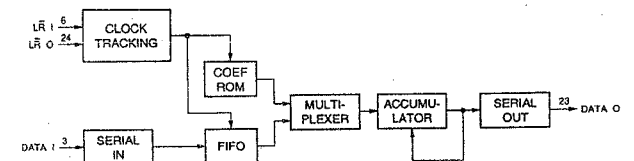


PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I	GPDLYS	11	I	TRGLR I	21	—	GND
2	I	MCLK	12	I	MSBDLY I	22	—	VDD
3	I	DATA I	13	I	RESET	23	O	DATA O
4	I	BCLK I	14	—	GND	24	I	LR O
5	I	WCLK I	15	I	MUTE I	25	I	WCLK O
6	I	LR I	16	O	MUTE O	26	I	BCLK O
7	—	VDD	17	I	MSBDLY O	27	—	GND
8	—	GND	18	I	TRGLR O	28	I	SETLSLW
9	—	NC	19	I	BKPOL O			
10	I	BKPOL I	20	—	NC			

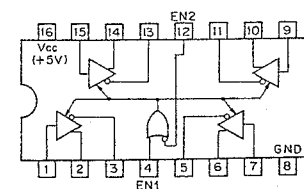


INPUT  
BCLK I : BIT CLOCK INPUT FOR INPUT DATA  
BCLK O : BIT CLOCK INPUT FOR OUTPUT DATA  
BKPOL I, BKPOL O : BIT CLOCK POLARITY  
DATA I : SERIAL INPUT, MSB FIRST  
GPDLYS : GROUP DELAY-SHORT  
LR I : LEFT/RIGHT CLOCK INPUT FOR INPUT DATA  
LR O : LEFT/RIGHT CLOCK INPUT FOR OUTPUT DATA  
MCLK : MASTER CLOCK INPUT  
MSBDLY I, MSBDLY O : MSB DELAY  
MUTE I : MUTE INPUT  
RESET : ACTIVE LOW RESET  
SETLSLW : SETTLE SLOW TO CHANGES IN SAMPLE RATES  
TRGLR I, TRGLR O : TRIGGER ON LR  
WCLK I : WORD CLOCK INPUT FOR INPUT DATA  
WCLK O : WORD CLOCK INPUT FOR OUTPUT DATA

OUTPUT  
DATA O : SERIAL OUTPUT, MSB FIRST  
MUTE O : MUTE OUTPUT



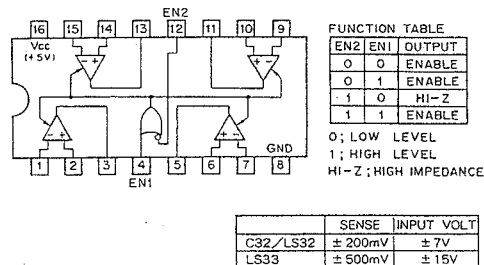
AM26LS31CNS (TI) FLAT PACKAGE  
HIGH SPEED DIFFERENTIAL LINE DRIVER  
- TOP VIEW -



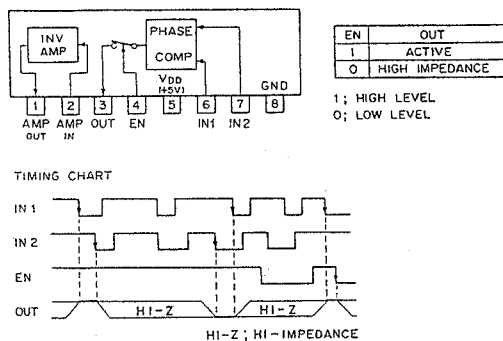
EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

0; LOW LEVEL  
1; HIGH LEVEL  
HI-Z; HIGH IMPEDANCE

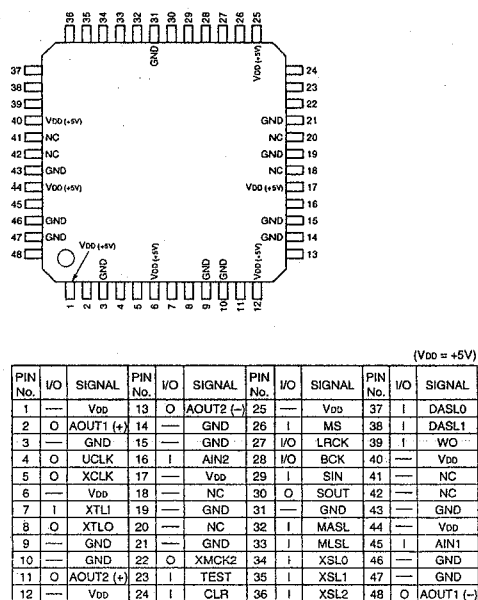
AM26LS32ACNS (TI) FLAT PACKAGE  
HIGH SPEED DIFFERENTIAL LINE RECEIVER  
- TOP VIEW -



CX23065A (SONY)  
N-MOS PHASE COMPARATOR WITH INVERSION AMPLIFIER  
- PRINTED SIDE VIEW -



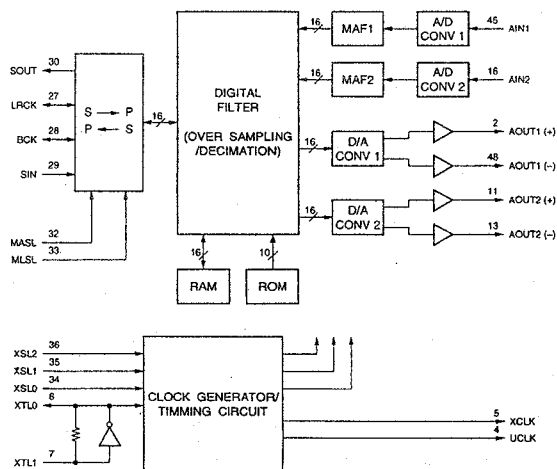
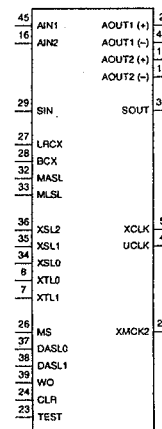
CXD2555Q (SONY)  
C-MOS AUDIO 1-BIT AD/DA CONVERTER  
- TOP VIEW -



**INPUT**  
AIN1, AIN2 : CH1/CH2 AD CONVERTER ANALOG INPUT  
CLR : SYSTEM CLEAR (H: NORMAL; CLEAR)  
DASL0 : IC TEST PIN (H: NORMAL)  
DASL1 : IC TEST PIN (L: NORMAL)  
MASL : FOR SERIAL I/O WITH 16-BIT SERIAL DATA, SELECTS EITHER THE FIRST 16-BIT SLOT OR THE LAST 16-BIT SLOT OF THE 32-BIT SLOT. (H: FORWARD PACKING, L: REARWARD PACKING)  
MSL : LSB FIRST/MSB FIRST SELECT (H: MSB FIRST; L: LSB FIRST)  
MS : MASTER/SLAVE MODE SELECT (H: MASTER MODE; L: SLAVE MODE)  
SIN : SERIAL DATA INPUT (1 SAMPLING 2 CHANNEL)  
TEST : TEST PIN  
WO : WINDOW OPEN FOR SYNCHRONOUS (H: WINDOW MASK; L: WINDOW OPEN)  
XSL0, XSL1, XSL2 : CRYSTAL SELECT  
XTL1 : CRYSTAL OSCILLATOR INPUT

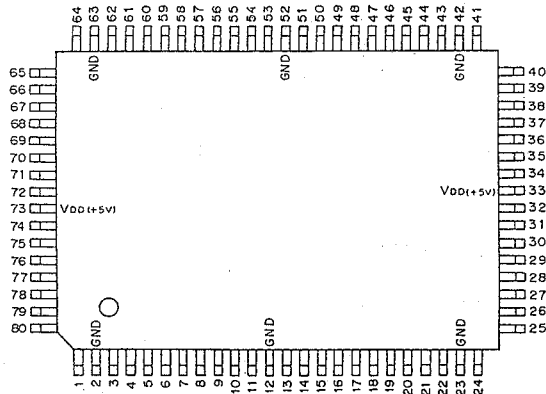
**OUTPUT**  
AOUT1 (+), AOUT2 (+) : CH1/CH2 DA CONVERTER ANALOG (+) OUTPUTS  
AOUT1 (-), AOUT2 (-) : CH1/CH2 DA CONVERTER ANALOG (-) OUTPUTS  
SOUT : SERIAL OUTPUT (1 SAMPLING 2 CHANNEL)  
UCLK : USER CLOCK  
XCLK : 256Fs CLOCK  
XMCK2 : IC TEST PIN (L: NORMAL)  
XTL0 : CRYSTAL OSCILLATOR OUTPUT

**INPUT/OUTPUT**  
BCK : SERIAL BIT TRANSFER CLOCK FOR SERIAL I/O  
LRCK : SAMPLING FREQUENCY CLOCK FOR SERIAL I/O



# CXD8025Q (SONY) FLAT PACKAGE

## 32-BIT SERIAL-PARALLEL/PARALLEL-SERIAL CONVERTER - TOP VIEW -



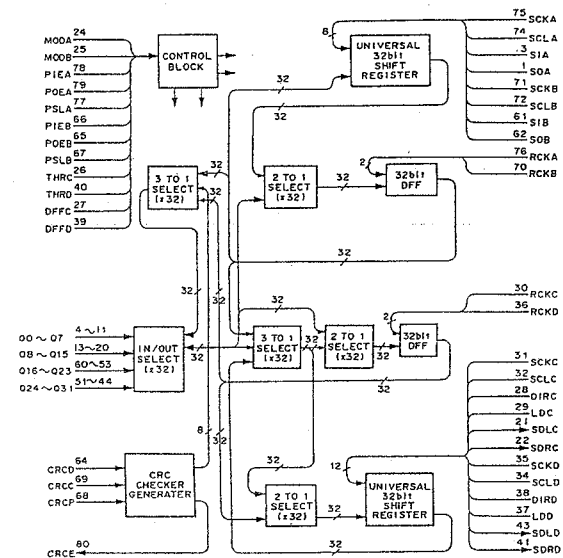
PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	O	SOA	21	I/O	SDLC	41	I/O	SDRD	61	I	SIB
2	-	GND	22	I/O	SDRC	42	-	GND	62	O	SOB
3	I	SIA	23	-	GND	43	I/O	SDLO	63	-	GND
4	I/O	Q0	24	I	MODA	44	I/O	Q31	64	I	CRCD
5	I/O	Q1	25	I	MODB	45	I/O	Q30	65	I	POEB
6	I/O	Q2	26	I	THRC	46	I/O	Q29	66	I	PIEB
7	I/O	Q3	27	I	DFRC	47	I/O	Q28	67	I	PSLB
8	I/O	Q4	28	I	DIRC	48	I/O	Q27	68	I	CRCP
9	I/O	Q5	29	I	LDC	49	I/O	Q26	69	I	CRCC
10	I/O	Q6	30	I	RCKC	50	I/O	Q25	70	I	RCKB
11	I/O	Q7	31	I	SCKC	51	I/O	Q24	71	I	SCKB
12	-	GND	32	I	SCLC	52	-	GND	72	I	SCLB
13	I/O	Q8	33	-	VDD (+5V)	53	I/O	Q23	73	-	VDD (+5V)
14	I/O	Q9	34	I	SCLD	54	I/O	Q22	74	I	SCLA
15	I/O	Q10	35	I	SCKD	55	I/O	Q21	75	I	SCKA
16	I/O	Q11	36	I	RCKD	56	I/O	Q20	76	I	RCKA
17	I/O	Q12	37	I	LDD	57	I/O	Q19	77	I	PSLA
18	I/O	Q13	38	I	DIRD	58	I/O	Q18	78	I	PIEA
19	I/O	Q14	39	I	DFFD	59	I/O	Q17	79	I	POEA
20	I/O	Q15	40	I	THRD	60	I/O	Q16	80	O	CRCE

3	SIA	00	4	
61	SIB	01	5	
		02	6	
28	THRC	03	7	
40	THRD	04	8	
74	SCLA	05	9	
72	SCLB	06	10	
32	SCLC	07	11	
34	SCLD	08	12	
64	CRCD	09	13	
68	CRCP	10	14	
27	DFRC	11	15	
38	DFFD	12	16	
30	DIRC	13	17	
29	DIRD	14	18	
37	LDC	15	19	
78	PIEA	16	20	
66	PIEB	17	21	
79	POEA	18	22	
65	POEB	19	23	
77	PSLA	20	24	
67	PSLB	21	25	
69	CRCC	22	26	
76	RCKA	23	27	
36	RCKB	24	28	
30	RCKC	25	29	
75	RCKD	26	30	
71	SCKA	27	31	
31	SCKB	28	32	
35	SCKC	29	33	
24	SOA	30	34	
25	SOB	31	35	
	CRCE	32	36	
		33	37	
		34	38	
		35	39	
		36	40	
		37	41	
		38	42	
		39	43	
		40	44	
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		42	46	
		43	47	
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		67	71	
		68	72	
		69	73	
		70	74	
		71	75	
		72	76	
		73	77	
		74	78	
		75	79	
		76	80	

INPUT  
CRCC : CLOCK INPUT FOR CRC CHECKER/GENERATOR  
CRCD : DATA INPUT FOR CRC CHECKER/GENERATOR  
CRCP : PRESET INPUT FOR CRC CHECKER/GENERATOR  
DFFC : DFF MODE SET FOR C BLOCK (MODE=0)  
DFFD : PARALLEL LOAD CONTROL FOR A BLOCK SHIFT REGISTER (MODE=2)  
DFFD : DFF MODE SET FOR D BLOCK (MODE=0)  
DFFD : PARALLEL LOAD CONTROL FOR B BLOCK SHIFT REGISTER (MODE=2) DISABLE (MODE=1, 3)  
DIRC : SHIFT DIRECTION SET FOR C BLOCK SHIFT REGISTER  
DIRD : SHIFT DIRECTION SET FOR D BLOCK SHIFT REGISTER  
LDC : PARALLEL LOAD CONTROL FOR C BLOCK SHIFT REGISTER  
LDD : PARALLEL LOAD CONTROL FOR D BLOCK SHIFT REGISTER  
MODA, MODB : MODE (0, 1, 2, 3) SET  
PIEA : PARALLEL IN ENABLE FOR AC BLOCK  
PIEB : PARALLEL IN ENABLE FOR BD BLOCK  
POEA : PARALLEL OUT ENABLE FOR AC BLOCK  
POEB : PARALLEL OUT ENABLE FOR BD BLOCK  
PSLA : PARALLEL DATA SELECT FOR AC BLOCK  
PSLB : PARALLEL DATA SELECT FOR BD BLOCK  
RCKA : CLOCK FOR A BLOCK DFF  
RCKB : CLOCK FOR B BLOCK DFF  
RCKC : CLOCK FOR C BLOCK DFF  
RCKD : CLOCK FOR D BLOCK DFF  
SCKA : CLOCK FOR A BLOCK SHIFT REGISTER  
SCKB : CLOCK FOR B BLOCK SHIFT REGISTER  
SCKC : CLOCK FOR C BLOCK SHIFT REGISTER  
SCKD : CLOCK FOR D BLOCK SHIFT REGISTER  
SCLA : ASYNCHRONOUS CLEAR FOR A BLOCK SHIFT REGISTER  
SCLB : ASYNCHRONOUS CLEAR FOR B BLOCK SHIFT REGISTER  
SCLC : ASYNCHRONOUS CLEAR FOR C BLOCK SHIFT REGISTER  
SCLD : ASYNCHRONOUS CLEAR FOR D BLOCK SHIFT REGISTER  
SIA : SERIAL DATA OUTPUT FOR A BLOCK SHIFT REGISTER  
SIB : SERIAL DATA OUTPUT FOR B BLOCK SHIFT REGISTER  
THRC : THOROUGH SET FOR C BLOCK DFF (L: THOROUGH)  
THRD : THOROUGH SET FOR D BLOCK DFF (L: THOROUGH)

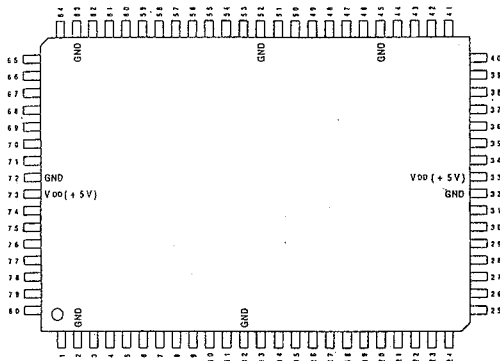
OUTPUT  
CRCE : CHECK OUTPUT FOR CRC CHECKER/GENERATOR  
SOA : SERIAL DATA OUTPUT FOR A BLOCK SHIFT REGISTER  
SOB : SERIAL DATA OUTPUT FOR B BLOCK SHIFT REGISTER

INPUT/OUTPUT  
Q0 - Q7 : PARALLEL DATA FOR AC BLOCK  
Q8 - Q15 : PARALLEL DATA FOR AC BLOCK (MODE 0, 2, 3)  
Q16 - Q23 : PARALLEL DATA FOR BD BLOCK (MODE=1)  
Q24 - Q31 : PARALLEL DATA FOR BD BLOCK  
Q32 - Q39 : SERIAL DATA (L SIDE) FOR C BLOCK SHIFT REGISTER  
Q40 - Q47 : SERIAL DATA (R SIDE) FOR C BLOCK SHIFT REGISTER  
Q48 - Q55 : SERIAL DATA (L SIDE) FOR D BLOCK SHIFT REGISTER  
Q56 - Q63 : SERIAL DATA (R SIDE) FOR D BLOCK SHIFT REGISTER

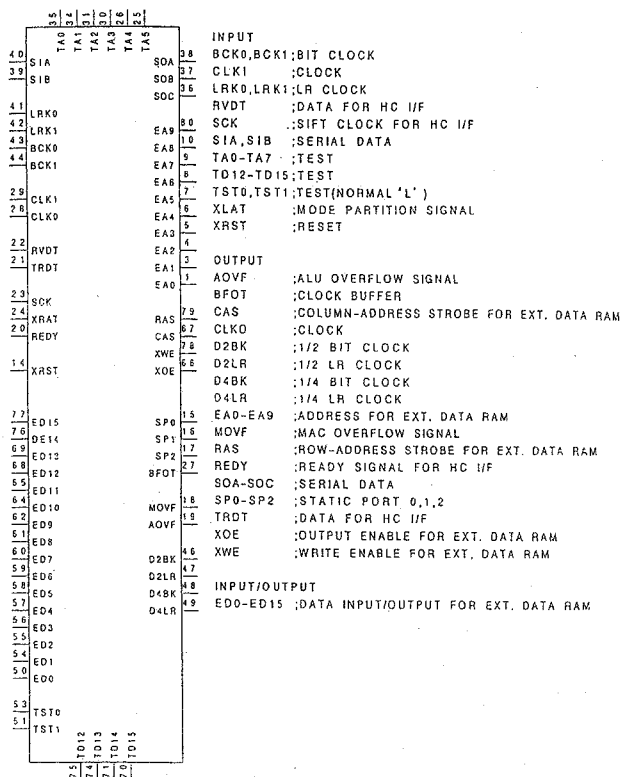




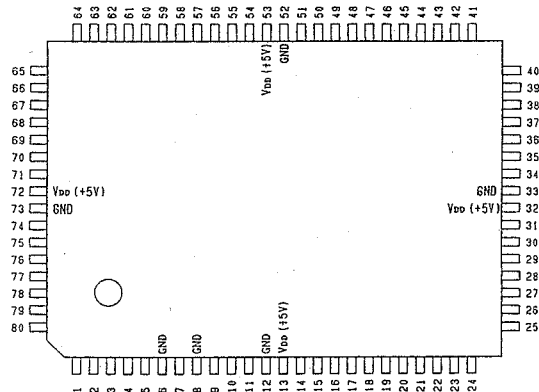
CXD2705AQ (SONY) FLAT PACKAGE  
C-MOS DIGITAL AUDIO SIGNAL PROCESSOR  
- TOP VIEW -



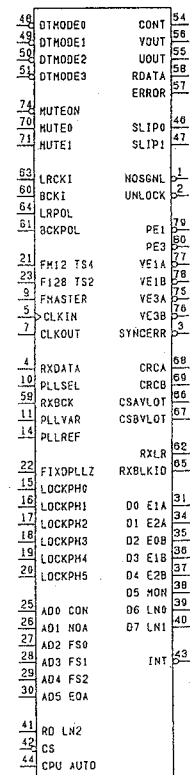
PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	O	EA0	21	O	TRDT	41	I	LRK0	61	I/O	ED8
2	-	GND	22	I	RVDT	42	I	LRK1	62	I/O	ED9
3	O	EA1	23	I	SCK	43	I	BCK0	63	-	GND
4	O	EA2	24	I	XLAT	44	I	BCK1	64	I/O	ED10(GND)
5	O	EA3	25	I	TA5	45	-	GND	65	I/O	ED11(GND)
6	O	EA4	26	I	TA4	46	O	D2BK	66	O	XOE
7	O	EA5	27	O	BFOT	47	O	D2LR	67	O	CAS
8	O	EA6	28	O	CLKO	48	O	D4BK	68	I/O	ED12
9	O	EA7	29	I	CLKI	49	O	D4LR	69	I/O	ED13
10	O	EA8	30	I	TA3	50	I/O	ED0	70	I	TD15
11	I	TA7	31	I	TA2	51	I	TST1	71	I	TD14
12	-	GND	32	-	GND	52	-	GND	72	-	GND
13	I	TA6	33	-	VDD(+5V)	53	I	TST0	73	-	VDD(+5V)
14	I	XRST	34	I	TA1	54	I/O	ED1	74	I	TD13
15	O	SP0	35	I	TA0	55	I/O	ED2	75	I	TD12
16	O	SP1	36	O	SOC	56	I/O	ED3	76	I/O	ED14
17	O	SP2	37	O	SOB	57	I/O	ED4	77	I/O	ED15
18	O	MOVF	38	O	SOA	58	I/O	ED5	78	O	XWE
19	O	AOVF	39	O	SIB	59	I/O	ED6	79	O	RAS
20	O	REDY	40	O	SIA	60	I/O	ED7	80	O	EA9



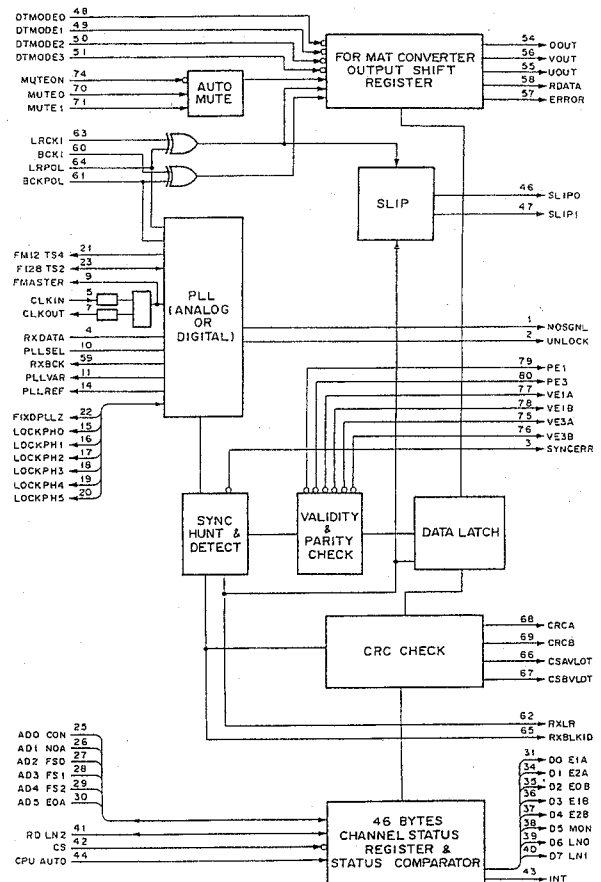
CXD8278AQ (SONY)  
C-MOS DIGITAL AUDIO SIGNAL (AES/EBU) DECODER  
- TOP VIEW -



PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	O	NOSGNL	21	I/O	FM12 TS4	41	I/O	RD LN2	61	I	BCKPOL
2	O	UNLOCK	22	I/O	FIXDPLL7	42	I	CS	62	O	RXL
3	O	SYNERR	23	I/O	FM28 TS2	43	O	INT	63	I	LRCK1
4	I	RXDATA	24	I	TST3	44	I	CPU_AUTO	64	I	LRPOL
5	I	CLKIN	25	I/O	AD0 CON	45	I	TST1	65	O	RXLKID
6	-	GND	26	I/O	AD1 NOA	46	O	SLIP0	66	O	CSAVLOT
7	O	CLKOUT	27	I/O	AD2 FS0	47	O	SLIP1	67	O	CSBVLDT
8	-	GND	28	I/O	AD3 FS1	48	I	DTMODE0	68	O	CRCA
9	O	FMASER	29	I/O	AD4 FS2	49	I	DTMODE1	69	O	CRCA
10	I	PLLSEL	30	I/O	AD5 EDA	50	I	DTMODE2	70	I	MUTE0
11	O	PLLVAR	31	O	DD E1A	51	I	DTMODE3	71	I	MUTE1
12	-	GND	32	-	VDD	52	-	GND	72	-	VDD
13	-	VDD	33	-	GND	53	-	VDD	73	-	GND
14	O	PLLREF	34	O	D1 E2A	54	O	COU	74	I	MUTEON
15	I/O	LOCKPH0	35	O	D2 E0B	55	O	VOU	75	O	VE3A
16	I/O	LOCKPH1	36	O	D3 E1B	56	O	VOU	76	O	VE3B
17	I/O	LOCKPH2	37	O	D4 E2B	57	O	ERROR	77	O	VE1A
18	I/O	LOCKPH3	38	O	D5 MON	58	O	RDATA	78	O	VE1B
19	I/O	LOCKPH4	39	O	D6 LNO	59	O	RXBCK	79	O	PE1
20	I/O	LOCKPH5	40	O	D7 LNI	60	I	BCK1	80	O	PE3

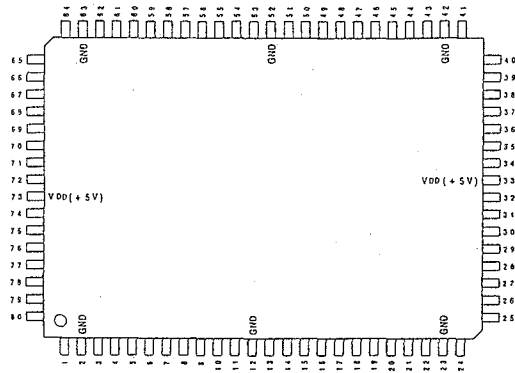


**INPUT**  
 BCKI : REFERENCE BIT CLOCK (64/32Fs)  
 BCKPOL : POLARITY SWITCHING SIGNAL OF BCKI (PIN NO.60) AND RXBCK (PIN NO.59)  
 CLKIN : MASTER CLOCK OSCILLATOR INPUT AT DIGITAL PLL  
 CPU AUTO : SELECTS CPU INTERFACE OR AUTO INTERFACE.  
 ('H': AUTO INTERFACE, 'L': CPU INTERFACE)  
**CS** : CHIP SELECT SIGNAL (INPUT FOR CHANNEL STATUS REGISTER) ('L': SELECT)  
**DTMODE0-3** : OUTPUT FORMAT SPECIFYING CODE OF RDATA SIGNAL (PIN NO.58)  
 LRCKI : REFERENCE L/R CLOCK INPUT (Fs PERIOD)  
 LRPOL : POLARITY SWITCHING SIGNAL OF LRCKI (PIN NO.63) AND RXLR (PIN NO.62)  
 MUTE0,1 : RDATA (PIN NO.58) MUTE PERIOD SETTING CODE  
 MUTEON : 'L': AUDIO OUTPUT BE FORCIBLY MUTE ON FOR A CERTAIN PERIOD  
 PLLSEL : 'L': ANALOG PLL, 'H': DIGITAL PLL  
 RXDATA : AES/EBU INPUT  
 TST1 : TEST INPUT (NORMALLY FIXED TO 'L'.)  
 TST3 : TEST PIN (FIXED TO 'L'.)  
**OUTPUT**  
 CLKOUT : MASTER CLOCK OSCILLATOR OUTPUT AT DIGITAL PLL  
 COUT : C BIT STATUS SIGNAL EXTRACTED FROM AES/EBU INPUT SIGNAL  
 CRCA, CRCB : OUTPUTS THE RESULT OF CHANNEL STATUS CRC CHECK OF SUBFRAME A AND B AT ERROR OCCURRING  
**CSAVLDTY, CSBVLDTY** : SUBFRAME A AND B CHANNEL STATUS  
 D0 E1A : SUBFRAME A CHANNEL STATUS (CPU AUTO: 'H')  
 D1 E2A : SUBFRAME A CHANNEL STATUS (CPU AUTO: 'H')  
 D2 E0B : SUBFRAME B CHANNEL STATUS (CPU AUTO: 'H')  
 D3 E1B : SUBFRAME B CHANNEL STATUS (CPU AUTO: 'H')  
 D4 E2B : SUBFRAME B CHANNEL STATUS (CPU AUTO: 'H')  
 D5 MON : SUBFRAME A CHANNEL STATUS (CPU AUTO: 'H')  
 D6 LNO : SUBFRAME A/B CHANNEL STATUS (CPU AUTO: 'H')  
 D7 LNI : SUBFRAME A/B CHANNEL STATUS (CPU AUTO: 'H')  
**ERROR**  
 FMASTER : MASTER CLOCK OUTPUT  
 INT : INTERRUPTION SIGNAL OUTPUT  
 NOSGNL : NO SIGNAL DETECTION  
 PE1 : PARITY ERROR DETECTION OUTPUT (1 SUBFRAM)  
 PE3 : PARITY ERROR DETECTION OUTPUT (3 SUBFRAMS CONTINUOUSLY)  
 PLLREF : RXDATA SYNC DETECTION  
 PLLVAR : ANALOG PLL MASTER CLOCK 1/256 (2Fs) SIGNAL  
 RDATA : AES/EBU INPUT SIGNAL DEMODULATED SIGNAL OUTPUT  
 RXBCK : BIT CLOCK OUTPUT GENERATED FROM AES/EBU INPUT SIGNAL  
 RXBLKID : BLOCK ID SIGNAL  
 RXLR : REFERENCE L/R CLOCK OUTPUT (Fs PERIOD)  
 SLIP0, SLIP1 : DATA SLIP DETECTION  
 SYNCERR : SYNC ERROR DETECTION OUTPUT.  
 UNLOCK : DIGITAL PLL UNLOCK DETECTION OUTPUT.  
 UOUT : U BIT (USER DATA BIT) STATUS SIGNAL EXTRACTED FROM RXDATA SIGNAL  
 VE1A : VALIDITY ERROR DETECTION OUTPUT (ONE SUBFRAM A).  
 VE1B : VALIDITY ERROR DETECTION OUTPUT (ONE SUBFRAM B).  
 VE3A : VALIDITY ERROR DETECTION OUTPUT (3FRAMS CONTINUOUSLY FOR SUBFRAM A)  
 VE3B : VALIDITY ERROR DETECTION OUTPUT (3FRAMS CONTINUOUSLY FOR SUBFRAM B)  
 VOUT : V BIT (VALIDITY BIT) STATUS SIGNAL EXTRACTED FROM RXDATA SIGNAL  
**INPUT/OUTPUT**  
 AD0 CON : CHANNEL STATUS (CPU AUTO: 'H')  
 AD1 NOA : CHANNEL STATUS (CPU AUTO: 'H')  
 AD2 FS0 : CHANNEL STATUS (CPU AUTO: 'H')  
 AD3 FS1 : CHANNEL STATUS (CPU AUTO: 'H')  
 AD4 FS2 : CHANNEL STATUS (CPU AUTO: 'H')  
 AD5 E0A : SUBFRAME A CHANNEL STATUS (CPU AUTO: 'H')  
 F128 TS2 : OUTPUTS 128Fs OF DIGITAL PLL.  
 FIXDPLL : PLLSEL: 'H'.  
 DIGITAL PLL OPERATION MODE SELECTION SIGNAL ('N': NARROW MODE, 'H': WIDE MODE)  
 FM12 TS4 : 1/2 MCK OUTPUT  
 LOCKPH0-5 : PLLSEL: 'H', FIXDPLL: 'H'  
 OPERATION PERIOD SETTING DATA INPUT AT NARROW MODE (DIGITAL PLL MODE)  
 RD LN2 : SUBFRAME A/B CHANNEL STATUS (CPU AUTO: 'H')

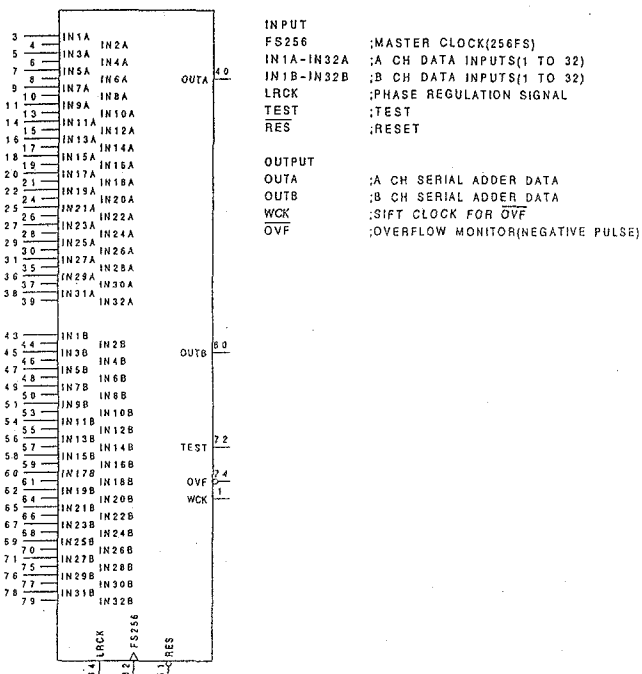


## CXD8307Q (SONY) FLAT PACKAGE

DUAL 32INPUTS 32BITS MSB FIRST SERIAL ADDER  
- TOP VIEW -

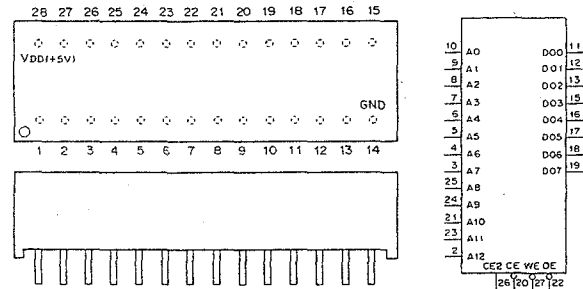


PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	O	WCK	21	I	IN18A	41	I	RES	61	I	IN18B
2	-	GND	22	I	IN19A	42	-	GND	62	I	IN19B
3	I	IN1A	23	-	GND	43	I	IN1B	63	-	GND
4	I	IN2A	24	I	IN20A	44	I	IN2B	64	I	IN20B
5	I	IN3A	25	I	IN21A	45	I	IN3B	65	I	IN21B
6	I	IN4A	26	I	IN22A	46	I	IN4B	66	I	IN22B
7	I	IN5A	27	I	IN23A	47	I	IN5B	67	I	IN23B
8	I	IN6A	28	I	IN24A	48	I	IN6B	68	I	IN24B
9	I	IN7A	29	I	IN25A	49	I	IN7B	69	I	IN25B
10	I	IN8A	30	I	IN26A	50	I	IN8B	70	I	IN26B
11	I	IN9A	31	I	IN27A	51	I	IN9B	71	I	IN27B
12	-	GND	32	I	FS256	52	-	GND	72	I	TEST
13	I	IN10A	33	-	VDD(+5V)	53	I	IN10B	73	-	VDD(+5V)
14	I	IN11A	34	I	LRCK	54	I	IN11B	74	O	OVF
15	I	IN12A	35	I	IN28A	55	I	IN12B	75	I	IN28B
16	I	IN13A	36	I	IN29A	56	I	IN13B	76	I	IN29B
17	I	IN14A	37	I	IN30A	57	I	IN14B	77	I	IN30B
18	I	IN15A	38	I	IN31A	58	I	IN15B	78	I	IN31B
19	I	IN16A	39	I	IN32A	59	I	IN16B	79	I	IN32B
20	I	IN17A	40	O	OUTA	60	I	IN17B	80	O	OUTB



## DS1643-120 (DALLAS)

C-MOS 64K (8192x8) -BIT NONVOLATILE TIMEKEEPING S-RAM  
WITH REAL TIME CLOCK  
- TOP/SIDE VIEW -



PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	-	NC	15	I/O	DO3
2	I	A12	16	I/O	DO4
3	I	A7	17	I/O	DO5
4	I	A6	18	I/O	DO6
5	I	A5	19	I/O	DO7
6	I	A4	20	I	CE
7	I	A3	21	I	A10
8	I	A2	22	I	OE
9	I	A1	23	I	A11
10	I	A0	24	I	A9
11	I/O	DO0	25	I	A8
12	I/O	DO1	26	I	CE2
13	I/O	DO2	27	I	WE
14	-	GND	28	-	VDD(+5V)

INPUT  
A0-A12 : ADDRESS INPUTS  
CE, CE2 : CHIP ENABLES  
OE : OUTPUT ENABLE  
WE : WRITE ENABLE

INPUT/OUTPUT  
DO0-DO7 : DATA INPUT/OUTPUT

TRUTH TABLE DS1643 TABLE1

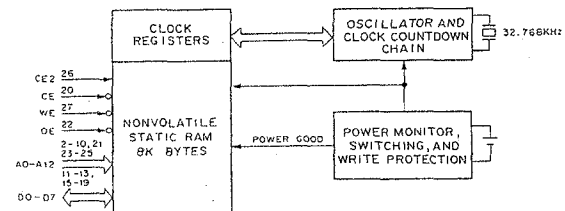
VDD	CE	CE2	OE	WE	MODE	DO	POWER
+5 V ± 10%	1	X	X	X	DESELECT	HIGH Z	STADBY
	X	0	X	X	DESELECT	HIGH Z	STADBY
	0	1	X	0	WRITE	DATA IN	ACTIVE
	0	1	0	1	READ	DATA OUT	ACTIVE
	0	1	1	1	READ	HIGH Z	ACTIVE
<+4.5 V, >V <sub>BAT</sub>	X	X	X	X	DESELECT	HIGH Z	CMOS STANDBY
<V <sub>BAT</sub>	X	X	X	X	DESELECT	HIGH Z	DATA RETENTION MODE

0 : LOW LEVEL  
1 : HIGH LEVEL  
X : DON'T CARE  
HIGH Z : HIGH IMPEDANCE

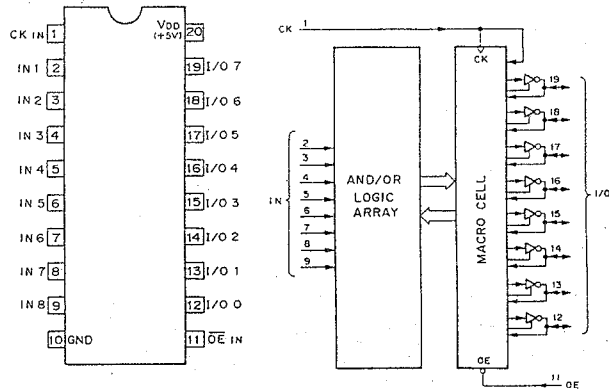
DS1643 REGISTER MAP-BANK1 TABLE2

ADDRESS	DATA								FUNCTION
	B7	B6	B5	B4	B3	B2	B1	B0	
1FFF	-	-	-	-	-	-	-	-	YEAR 00-99
1FFE	X	X	X	-	-	-	-	-	MONTH 01-12
1FFD	X	X	-	-	-	-	-	-	DATE 01-31
1FFC	X	FT	X	X	X	-	-	-	DAY 01-07
1FFB	X	X	-	-	-	-	-	-	HOUR 00-23
1FFA	X	-	-	-	-	-	-	-	MINUTES 00-59
1FF9	OSC	-	-	-	-	-	-	-	SECONDS 00-59
1FF8	W	R	-	-	-	-	-	-	CONTROL A

OSC : STOP BIT R : READ BIT FT : FREQUENCY TEST  
W : WRITE BIT X : UNUSED

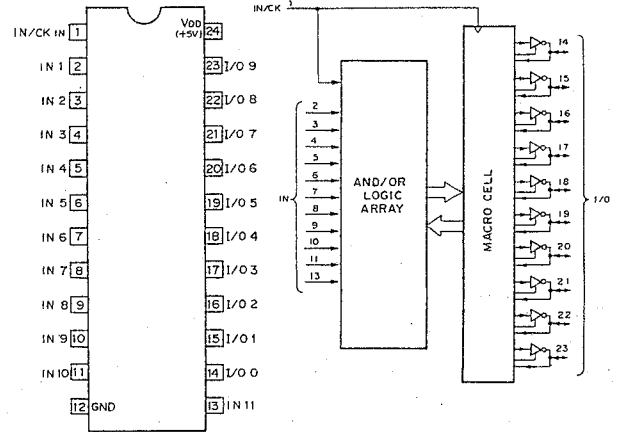


GAL16V8B-10LP (LATTICE)  
 GAL16V8B-7LP (LATTICE)  
 C-MOS ELECTRICALLY ERASABLE PROGRAMMABLE LOGIC DEVICE  
 - TOP VIEW -



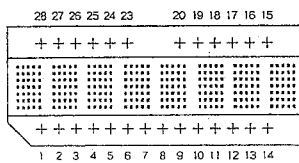
\* ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

GAL22V10B-15LP (LATTICE)  
 C-MOS ELECTRICALLY ERASABLE PROGRAMMABLE LOGIC DEVICE  
 - TOP VIEW -



\* ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

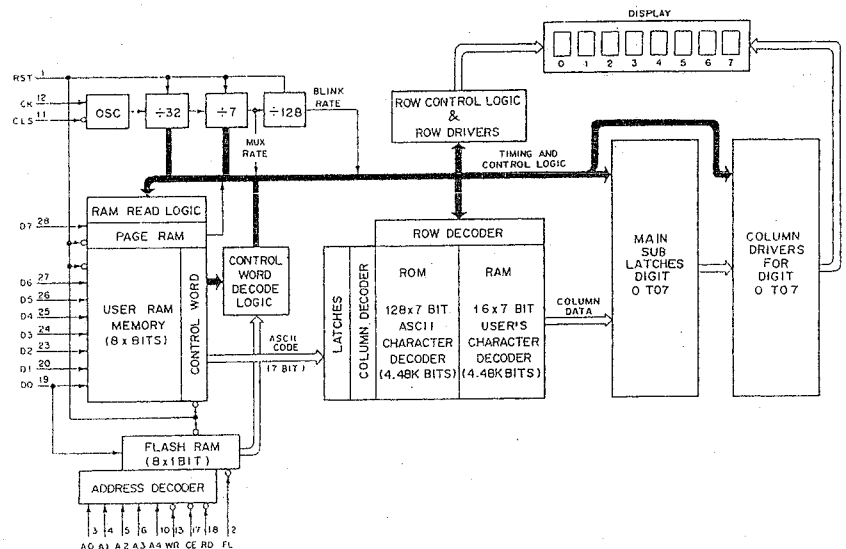
HDSP-2111 (HP) (YELLOW)  
 C-MOS 8-COLUMN DISPLAY (5x7-DOT) WITH DECODER AND DRIVER  
 - TOP VIEW -



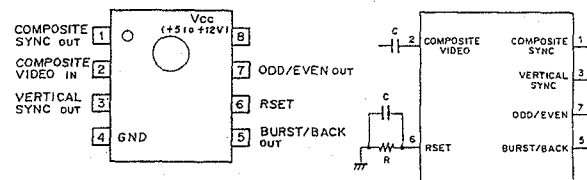
(VDD = +5V)

PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I	RST	15	-	GND
2	I	FL	16	-	GND
3	I	A0	17	I	CE
4	I	A1	18	I	RD
5	I	A2	19	I	D0
6	I	A3	20	I	D1
7	I	STR	21	-	-
8	I	STR	22	-	-
9	I	STR	23	I	D2
10	I	A4	24	I	D3
11	I	CLS	25	I	D4
12	I	CK	26	I	D5
13	I	WR	27	I	D6
14	-	VDD	28	I	D7

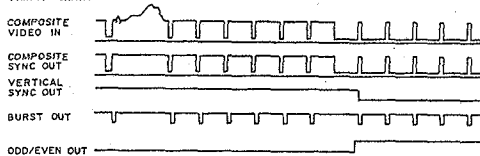
A0 - A4 : ADDRESS INPUT  
 CE : CHIP ENABLE  
 CK : CLOCK  
 CLS : CLOCK SELECT  
 D0 - D7 : DATA INPUT  
 FL : FLASH RAM  
 RD : READ  
 RST : RESET  
 STR : SUBSTR BIAS  
 WR : WRITE



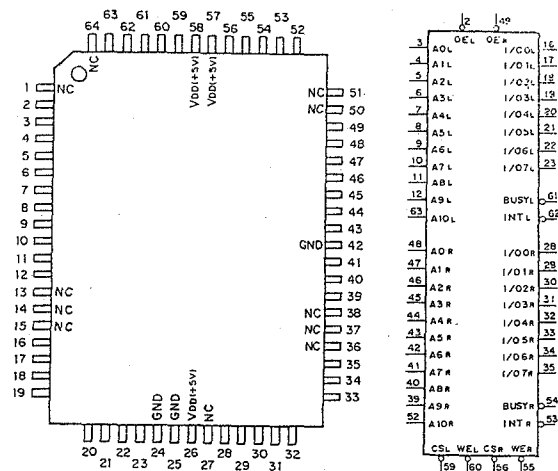
LM1881M (NS) FLAT PACKAGE  
VIDEO SYNC SEPARATOR  
- TOP VIEW -



TIMING CHART

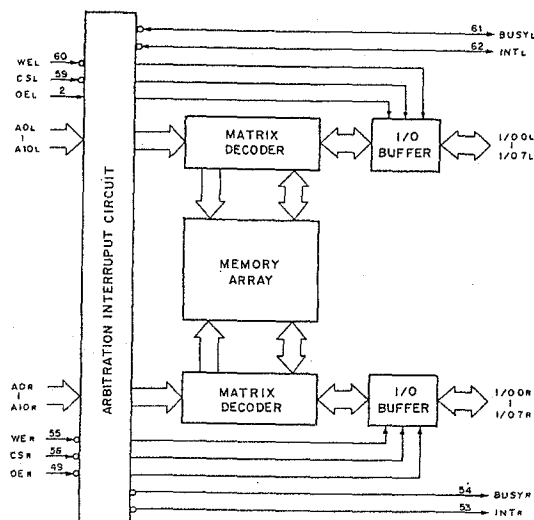
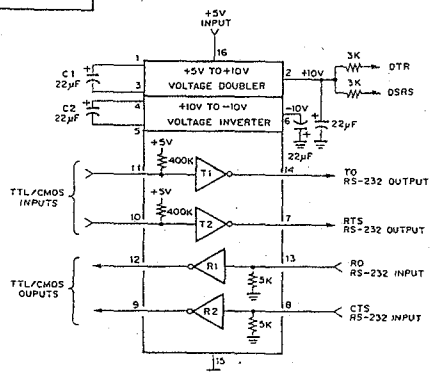
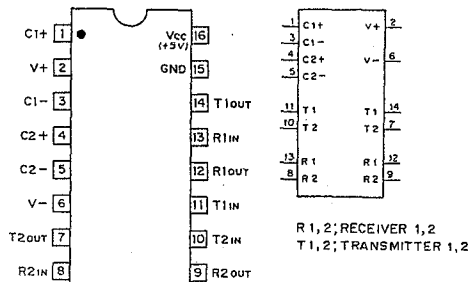


MB8421-90LPFQ (FUJITSU) (ACCESS TIME=90ns) FLAT PACKAGE  
C-MOS 16384 (2Kx8) BIT DUAL PORT STATIC RAM  
- TOP VIEW -

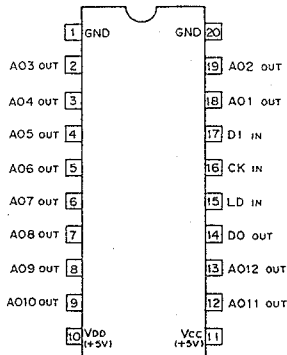


A0L - A10L, A0R - A10R : ADDRESS INPUTS  
I/O0L - I/O7L, I/O0R - I/O7R : DATA INPUTS/OUTPUTS  
CSL, CSR : CHIP SELECT INPUT  
WEL, WER : WRITE ENABLE INPUT  
OEL, OER : OUTPUT ENABLE INPUT  
BUSYL, BUSYR : BUSY OUTPUT  
INTL, INTR : INTERRUPT OUTPUT

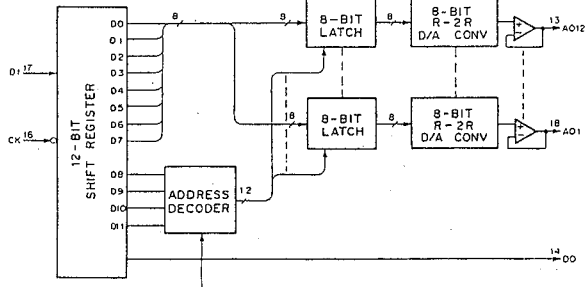
MAX232CWE (MAXIM)  
RS-232 TRANSMITTER/RECEIVER  
- TOP VIEW -



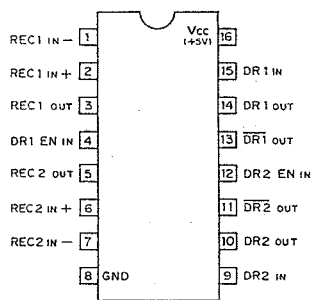
MB88346BPF (FUJITSU) FLAT PACKAGE  
C-MOS 8-BIT D/A CONVERTER  
- TOP VIEW -



AO1 - AO12 : 8-BIT D/A OUTPUTS  
CK : CLOCK INPUT  
D1 : SERIAL DATA INPUT  
DO : DATA OUTPUT  
LD : DATA LOAD CONTROL INPUT (H : LOAD)



MC34051M (MOTOROLA) FLAT PACKAGE  
RS-422 DRIVER/RECEIVER  
- TOP VIEW -

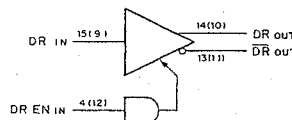


DR EN	MODE
0	DISABLE
1	ENABLE

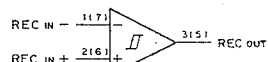
0 : LOW LEVEL  
1 : HIGH LEVEL

DR : DRIVER  
DR EN : DRIVER ENABLE  
REC : RECEIVER

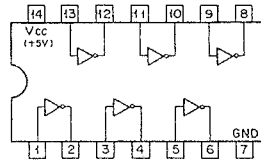
DRIVER CIRCUIT



RECEIVER CIRCUIT



MC74F04M (MOTOROLA) FLAT PACKAGE  
TTL INVERTER  
- TOP VIEW -



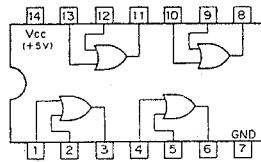
$$A \rightarrow Y = A \rightarrow Y$$

$$Y = \bar{A}$$

A	Y
0	1
1	0

0: LOW LEVEL  
1: HIGH LEVEL

MC74F32M (MOTOROLA) FLAT PACKAGE  
TTL 2-INPUT POSITIVE-OR GATE  
- TOP VIEW -



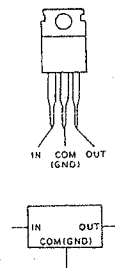
$$A \rightarrow Y = A \rightarrow B \rightarrow Y$$

$$Y = A + B = \overline{\bar{A} \cdot \bar{B}}$$

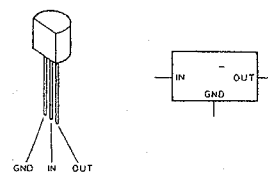
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0: LOW LEVEL  
1: HIGH LEVEL

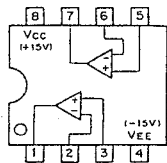
MC7805CT (MOTOROLA) +5V  
UPC7805H (NEC) +5V  
POSITIVE VOLTAGE REGULATOR (1A)  
- SIDE VIEW -



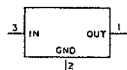
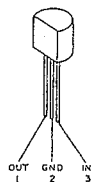
MC79L12CP (MOTOROLA) -12V  
NJM79L05A (JRC) -5V  
NEGATIVE VOLTAGE REGULATOR (100 mA)



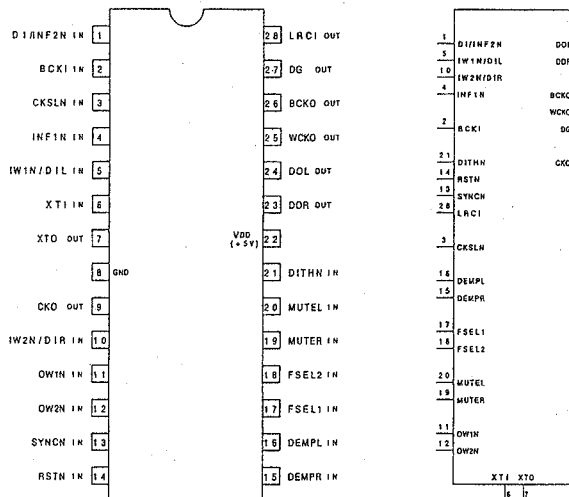
NJM5532M (JRC) FLAT PACKAGE  
RC4558PS (TI) FLAT PACKAGE  
RC5532M (RAYTHEON) FLAT PACKAGE  
DUAL OPERATIONAL AMPLIFIER  
- TOP VIEW -



NJM78L05A (JRC) +5V (100mA)  
NJM78L12A (JRC) +12V (100mA)  
POSITIVE VOLTAGE REGULATOR



SM5842AP (NPC)  
SM5842APT (NPC)  
C-MOS 8TIMES OVER SAMPLING DIGITAL FILTER FOR DIGITAL AUDIO  
- TOP VIEW -



#### INPUT

BCKI : INPUT BIT CLOCK  
CKSLN : OSCILLATE AND INPUT FREQUENCY SELECT (H;384 fs, L;256 fs)  
DEMPL : Lch DEEMPHASIS SIGNAL (L;OFF, H;ON)  
DEMPR : Rch DEEMPHASIS SIGNAL (L;OFF, H;ON)  
DI/INF2N : INPUT DATA (INF1N=L)/INPUT FORMAT SELECT 2 (INF1N=H)  
DITHN : DITHER ON/OFF SELECT (L;ON, H;OFF)  
FSEL1 : DEEMPHASIS FILTER SELECT 1  
FSEL2 : DEEMPHASIS FILTER SELECT 2

fs (Hz)	32k	44.1k	48k
FSEL1	H	L	L
FSEL2	H	L	H

INF1N : INPUT FORMAT SELECT 1

	TERMINAL	INPUT FORMAT		
		LR MUTUALLY BELOW STUFFING	LR MUTUALLY ABOVE STUFFING	LR SIMULTANEOUSLY ABOVE STUFFING
SETTING	INF1N	L	H	
	INF2N	DI TERMINAL	L	H
TERMINAL FUNCTION	NO.1	DI	INF2N	
	NO.5	IW1N	DIL	
	NO.10	IW2N	DIR	

IW1N/DIL : INPUT WORD LENGTH SELECT 1 (INF1N=L)/Lch DATA INPUT (INF1N=H)  
IW2N/DIR : INPUT WORD LENGTH SELECT 2 (INF1N=L)/Rch INPUT DATA (INF1N=H)

INPUT FORMAT	INPUT WORD LENGTH (BIT)	LR MUTUALLY BELOW STUFFING				LR MUTUALLY ABOVE STUFFING	LR SIMULTANEOUSLY ABOVE STUFFING
		16	18	20	24		
5	IW1N/DIL	H	L	H	L	(USED AS DIL TERMINAL)	
10	IW2N/DIR	H	H	L	L	(USED AS DIR TERMINAL)	
4	INF1N	L				H	
1	INF2N/DI	(USED AS DI TERMINAL)	L				H



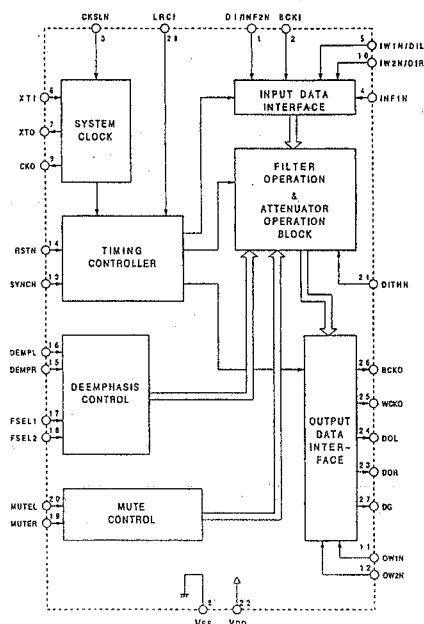
MUTEL ;MUTE SIGNAL Lch (L:NORMAL OUTPUT,H:MUTING)  
 MUTER ;MUTE SIGNAL Rch (L:NORMAL OUTPUT,H:MUTING)  
 OW1N ;OUTPUT WORD LENGTH SELECT 1  
 OW2N ;OUTPUT WORD LENGTH SELECT 2

OUTPUT WORD LENGTH(BIT)		18	20	22	24
SETTING	OW1N	H	L	H	L
	OW2N	H	H	L	L

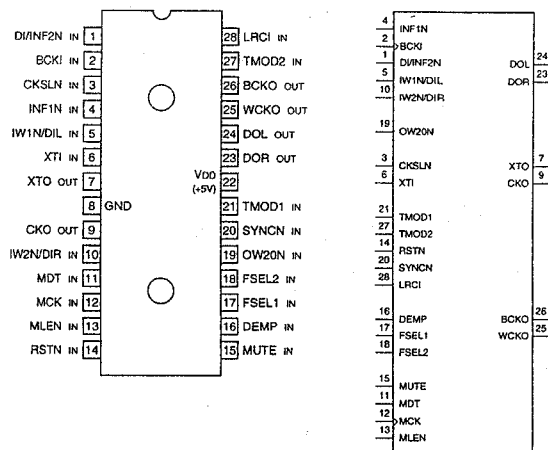
RSTN ;SYSTEM RESET (L:SYSTEM RESET, H:NORMAL OPERATION)  
 SYNCN ;SYNCHRONIZATION MODE SELECT  
 (L:FORCED SYNCHRONIZATION MODE, H:JITTER FREE MODE)  
 XT1 ;OSCILLATOR INPUT TERMINAL

#### OUTPUT

BCKO ;OUTPUT BIT CLOCK  
 CKO ;OSCILLATOR BLOCK OUTPUT CLOCK  
 DG ;DEGLITCH OUTPUT  
 DOL ;Lch DATA OUTPUT  
 DOR ;Rch DATA OUTPUT  
 LRCI ;INPUT DATA SAMPLING RATE(fs) CLOCK  
 WCKO ;OUTPUT WORD CLOCK  
 XTO ;OSCILLATOR OUTPUT TERMINAL



### SM5843AP1 (NPC) C-MOS AUDIO PLAYBACK DIGITAL FILTER - TOP VIEW -



#### INPUT

BCKI ;INPUT BIT CLOCK  
 CKSLN ;INPUT FREQUENCY SELECT (H: 384fs/L: 256fs)  
 DEMP ;DE-EMPHASIS CONTROL (L: OFF/H: ON)  
 DIN/F2N ;INPUT DATA (INF1N = L/INPUT FORMAT SELECT 2 (INF1N = H)  
 FSEL1,2 ;DE-EMPHASIS SELECT

fs (Hz)	32k		44.1k		48k		TEST MODE	
	FSEL1	FSEL2	H	L	H	L	H	L
SETTING	FSEL1	FSEL2	H	L	H	L	H	L

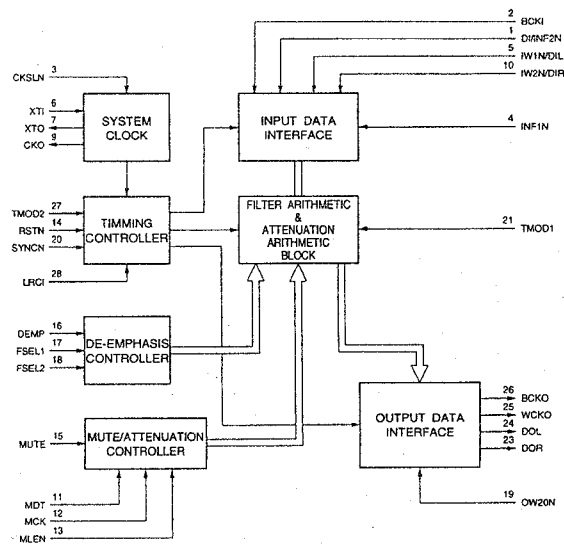
INF1N ;INPUT FORMAT SELECT 1  
 IW1N/DIL ;INPUT WORD LENGTH 1 (INF1N = L)/Lch DATA INPUT (TNF1N = H)  
 IW2N/DIR ;INPUT WORD LENGTH 2 (INF1N = L)/Rch DATA INPUT (TNF1N = H)  
 LRCI ;SAMPLE RATE CLOCK (fs)  
 MCK ;ATTENUATION BIT CLOCK  
 MDT ;ATTENUATION SERIAL DATA  
 MLEN ;ATTENUATION LATCH CLOCK  
 MUTE ;MUTE CONTROL  
 OW2ON ;OUTPUT WORD LENGTH

OUTPUT WORD LENGTH (BIT)		18	20
OW2ON	OW2ON	H	L

RSTN ;SYSTEM RESET (L: RESET/H: NORMAL)  
 SYNCN ;SYNC MODE SELECT (L: EXECUTION SYNC MODE/H: JITTER FREE MODE)  
 TMD01 ;DITHER ON/OFF SELECT (L: ON/H: OFF)  
 TMD02 ;FILTER CHARACTER SELECT  
 XT1 ;OSCILLATOR INPUT

#### OUTPUT

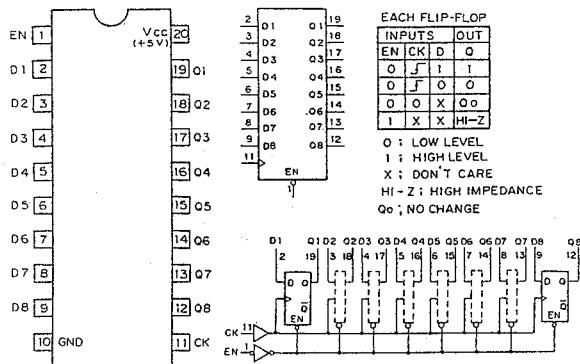
BCKO ;OUTPUT BIT CLOCK  
 CKO ;OSCILLATOR BLOCK OUTPUT CLOCK  
 DOL ;Lch DATA  
 DOR ;Rch DATA  
 WCKO ;OUTPUT WORD CLOCK  
 XTO ;OSCILLATOR OUTPUT



## SN74ALS574BNS (TI) FLAT PACKAGE

TTL 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP

- TOP VIEW -

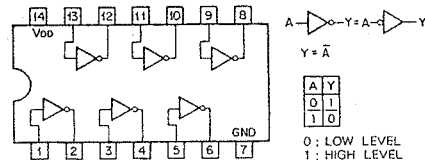


## SN74HC04ANS (TI) FLAT PACKAGE

SN74HC04ANS (TI) FLAT PACKAGE

C-MOS HEX INVERTERS

- TOP VIEW -



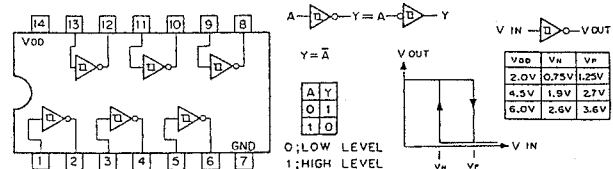
NOTE:

TYPE	V <sub>DD</sub>
74HCT04 TYPE	+5V
TC74AC04 TYPE	+2 to +5.5V
TC74VHC04 TYPE	+2 to +5.5V
74ACT04 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

## SN74HC14ANS (TI) FLAT PACKAGE

C-MOS HEX SCHMITT TRIGGER INVERTERS

- TOP VIEW -



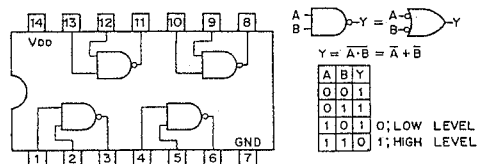
NOTE:

TYPE	V <sub>DD</sub>
TC74AC14 TYPE	+2 to +5.5V
OTHER TYPES	+2 to +6V

## SN74HC00ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NAND GATES

- TOP VIEW -



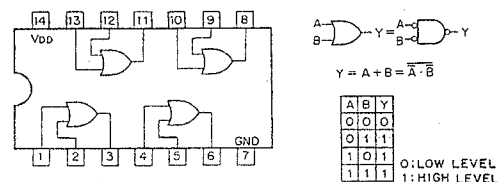
NOTE:

TYPE	V <sub>DD</sub>
TC74AC00 TYPE	+2 to +5.5V
MC74HCT00N	+5V
74ACT00 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

## SN74HC32ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT OR GATES

- TOP VIEW -



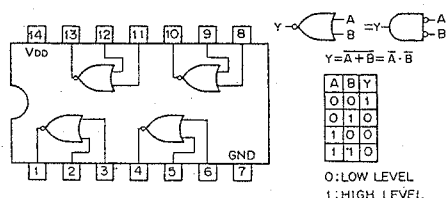
NOTE:

TYPE	V <sub>DD</sub>
TC74AC32 TYPE	+2 to +5.5V
TC74VHC32	+2 to +5V
OTHER TYPES	+2 to +6V

## SN74HC02ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NOR GATES

- TOP VIEW -



NOTE:

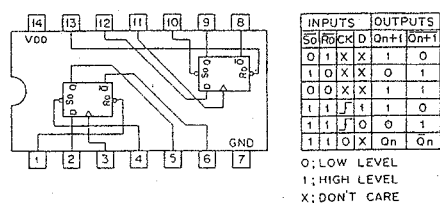
TYPE	V <sub>DD</sub>
TC74AC02F	+2 to +5.5V
74ACT02SJ	+4.5 to +5.5V
TC74ACT02F	+2 to +5V
OTHER TYPES	+2 to +6V

## SN74HC74ANS (TI) FLAT PACKAGE

TC74AC74F (TOSHIBA) FLAT PACKAGE

C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET

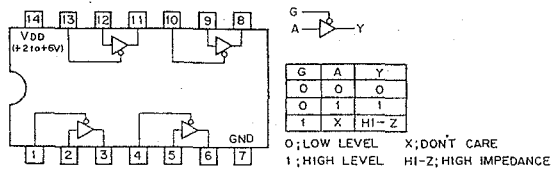
- TOP VIEW -



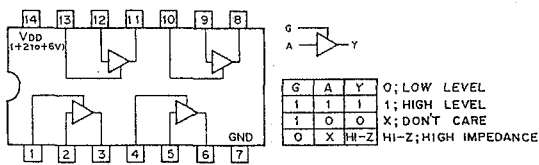
NOTE:

TYPE	V <sub>DD</sub>
TC74HCT74AF	+5V
TC74AC74 TYPE	+2 to +5.5V
74ACT74 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

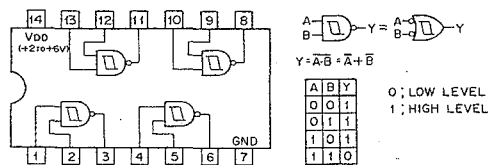
SN74HC125ANS (TI) FLAT PACKAGE  
C-MOS BUS BUFFER GATES WITH 3-STATE OUTPUT  
- TOP VIEW -



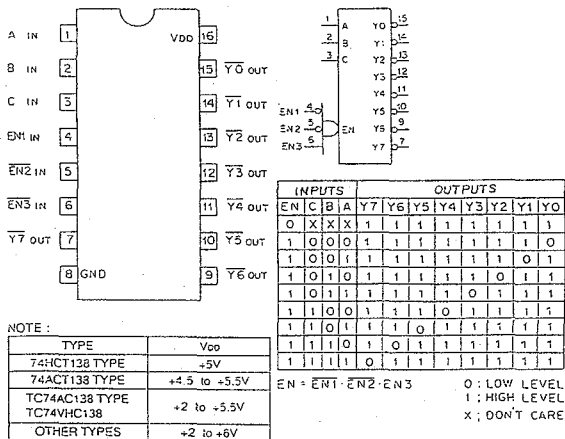
SN74HC126ANS (TI) FLAT PACKAGE  
C-MOS BUS BUFFER GATE WITH 3-STATE OUTPUT  
- TOP VIEW -



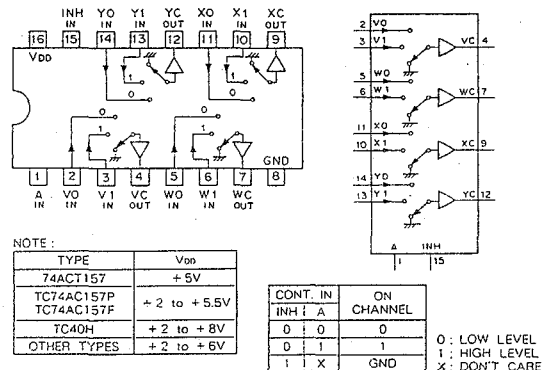
SN74HC132ANS (TI) FLAT PACKAGE  
C-MOS 2-INPUT NAND SCHMITT TRIGGER  
- TOP VIEW -



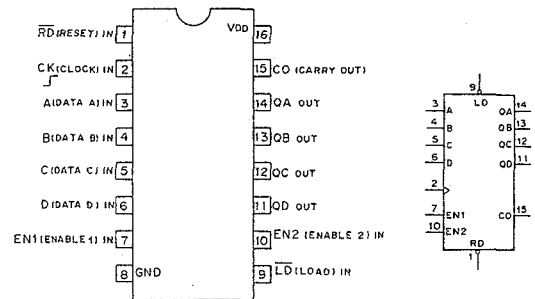
SN74HC138ANS (TI) FLAT PACKAGE  
C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER  
- TOP VIEW -



SN74HC157ANS (TI) FLAT PACKAGE  
C-MOS QUAD 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER  
- TOP VIEW -



SN74HC161ANS (TI) FLAT PACKAGE  
C-MOS SYNCHRONOUS PRESETTABLE 4-BIT BINARY COUNTER  
- TOP VIEW -



MODE SELECTION				
CONTROL		INPUTS		MODE
Rp	LD	EN1	EN2	
0	X	X	X	RESET (ASYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0 : LOW LEVEL  
 1 : HIGH LEVEL  
 X : DON'T CARE

COUNT SEQUENCE				
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

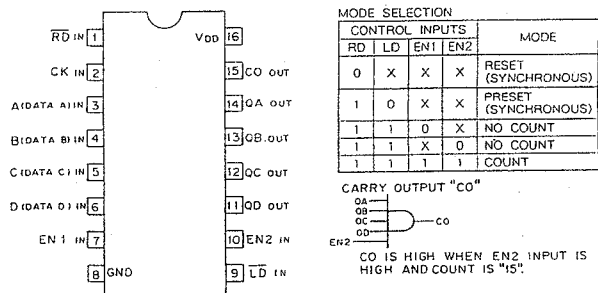
CARRY OUTPUT "CO"

```

  QA ---|
  QB ---|--- OR --- CO
  QC ---|
  QD ---|
  EN2 ---|
  
```

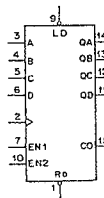
CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

SN74HC163ANS (TI) FLAT PACKAGE  
TC74AC163F (TOSHIBA) FLAT PACKAGE  
C-MOS PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER  
- TOP VIEW -



NOTE:

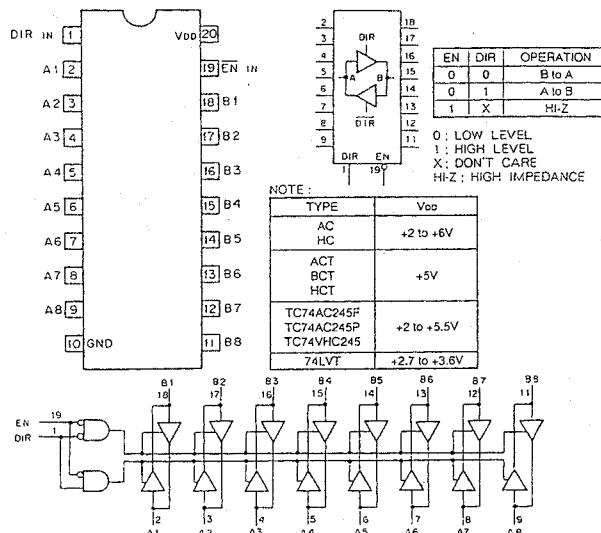
TYPE	V <sub>DD</sub>
74ACT163 TYPE	+5V
74FCT163 TYPE	+5V
TC74AC163 TYPE	+2 to +5.5V
OTHER TYPES	+2 to +6V



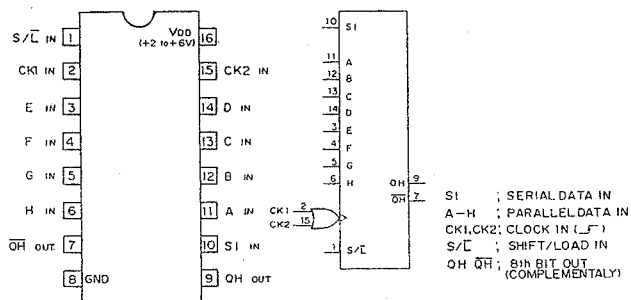
**COUNT SEQUENCE**

COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

SN74HC245ANS (TI) FLAT PACKAGE  
C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS  
- TOP VIEW -



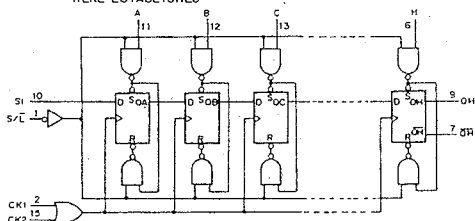
SN74HC165ANS (TI) FLAT PACKAGE  
C-MOS SERIAL-OR PARALLEL-INPUT SHIFT REGISTER  
- TOP VIEW -



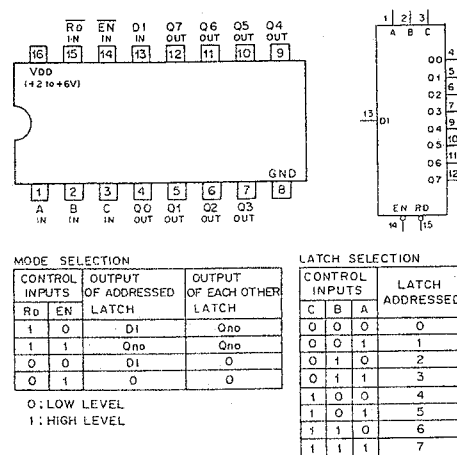
**INPUTS**

S/L	CK1+CK2	SI	A.....H	QA	QB.....h	QH	OPERATION
0	X	X	a.....h	a	b.....h	h	PARALLEL LOAD
1	X	0	X	0	QAo.....QGo	QHo	RIGHT SHIFT
1	X	1	X	1	QAo.....QGo	QHo	RIGHT SHIFT
1	X	X	X	QAo	QB.....QH	QHo	NO COUNT
1	0	X	X	QAo	QB.....QH	QHo	NO COUNT
1	1	X	X	QAo	QB.....QH	QHo	NO COUNT

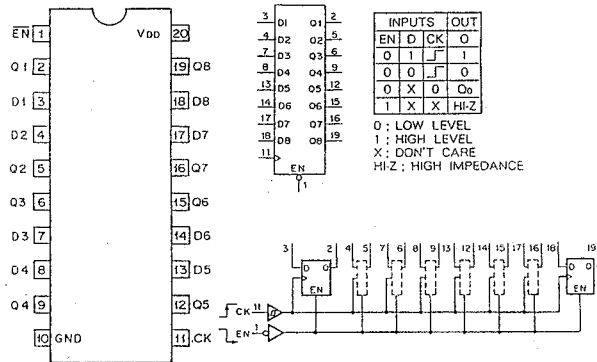
0: LOW LEVEL 1: HIGH LEVEL X: DON'T CARE  
a-h: LEVEL OF INPUTS A-H  
QAo-QHo: LEVEL OF QA-QH BEFORE THE INDICATED INPUT CONDITIONS WERE ESTABLISHED



SN74HC259ANS (TI) FLAT PACKAGE  
C-MOS 8-BIT ADDRESSABLE LATCHES  
- TOP VIEW -



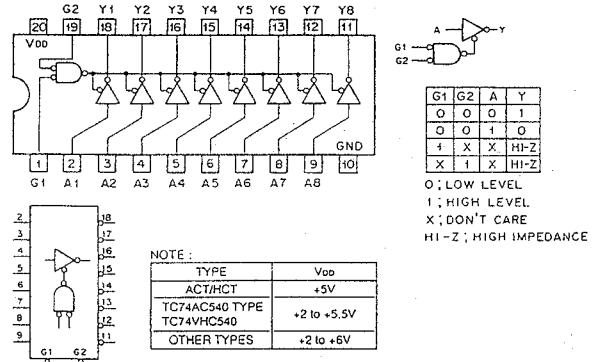
SN74HC374ANS (TI) FLAT PACKAGE  
C-MOS 3-STATE OCTAL D-TYPE FLIP-FLOP  
- TOP VIEW -



NOTE:

TYPE	V <sub>DD</sub>
74AC/74HC	+2 to +6V
74ACT/74BCT/74FCT/74HCT	+5V
74VHC	+2 to +5.5V

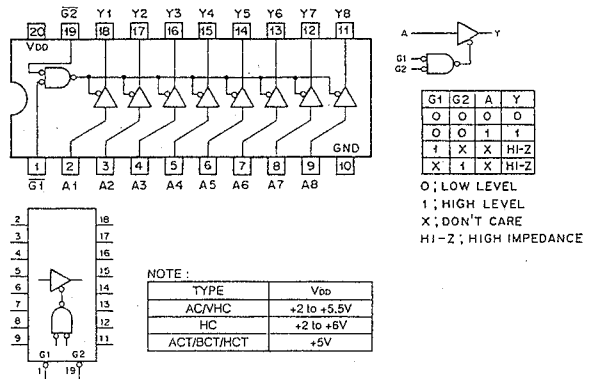
SN74HC540ANS (TI) FLAT PACKAGE  
C-MOS 3-STATE INVERTING BUFFER/LINE DRIVER/LINE RECEIVER  
- TOP VIEW -



NOTE:

TYPE	V <sub>DD</sub>
ACT/HCT	+5V
TC74AC540 TYPE	+2 to +5.5V
TC74VHC540	+2 to +6V

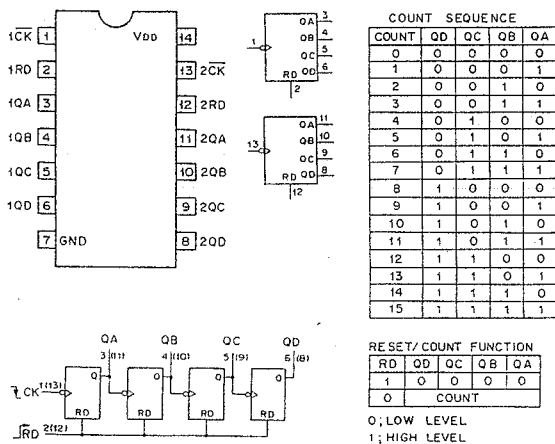
SN74HC541ANS (TI) FLAT PACKAGE  
TC74AC541F (TOSHIBA) FLAT PACKAGE  
C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS  
- TOP VIEW -



NOTE:

TYPE	V <sub>DD</sub>
AC/VHC	+2 to +5.5V
HC	+2 to +6V
ACT/BCT/HCT	+5V

SN74HC393ANS (TI) FLAT PACKAGE  
C-MOS DUAL 4-BIT BINARY COUNTER  
- TOP VIEW -



COUNT SEQUENCE

COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

RESET/COUNT FUNCTION

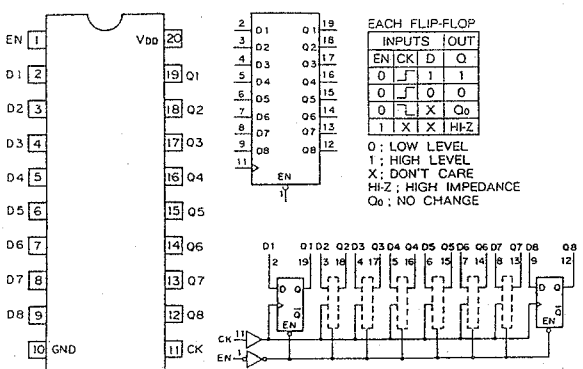
RD	QD	QC	QB	QA
1	0	0	0	0
0	COUNT			

0: LOW LEVEL  
1: HIGH LEVEL

NOTE:

TYPE	V <sub>DD</sub>
74AC	+2 to 5.5V
74HC	+2 to 6V

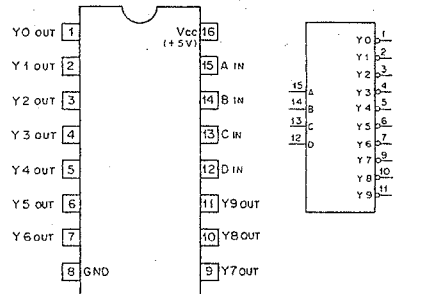
SN74HC574ANS (TI) FLAT PACKAGE  
C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP  
- TOP VIEW -



NOTE:

TYPE	V <sub>DD</sub>
74AC/74HC	+2 to +6V
74ACT/74FCT/74HCT	+5V
TC74AC574F	+2 to +5.5V
TC74VHC574	+2 to +6V

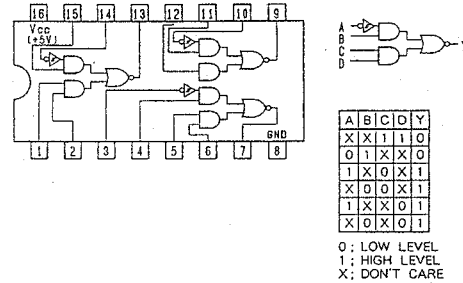
SN74LS145NS (TI) FLAT PACKAGE  
TTL BCD-TO-DECIMAL DECODER/DRIVER  
- TOP VIEW -



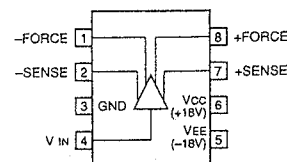
STATE	D	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
1	0	0	0	1	1	0	1	1	1	1	1	1	1	1
2	0	0	1	0	1	1	0	1	1	1	1	1	1	1
3	0	0	1	1	1	1	1	0	1	1	1	1	1	1
4	0	1	0	0	1	1	1	1	0	1	1	1	1	1
5	0	1	0	1	1	1	1	1	1	0	1	1	1	1
6	0	1	1	0	1	1	1	1	1	1	0	1	1	1
7	0	1	1	1	1	1	1	1	1	1	1	0	1	1
8	1	0	0	0	1	1	1	1	1	1	1	1	0	1
9	1	0	0	1	1	1	1	1	1	1	1	1	1	0
INVALID	1	0	1	0	1	1	1	1	1	1	1	1	1	1
	1	0	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	0	0	1	1	1	1	1	1	1	1	1	1
	1	1	0	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	0	1	1	1	1	1	1	1	1	1	1

0: LOW LEVEL  
1: HIGH LEVEL

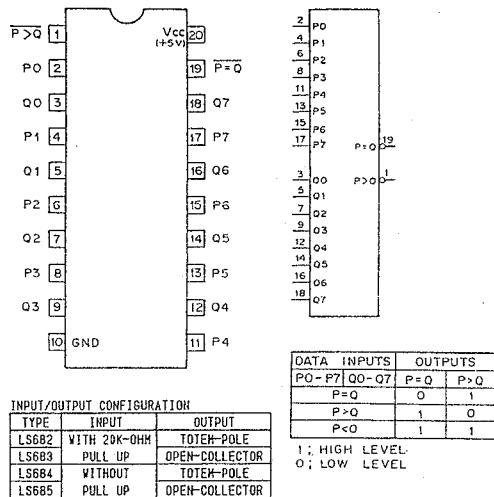
SN75124NS (TI)  
TRIPLE LINE RECEIVER  
- TOP VIEW -



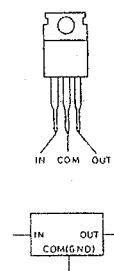
SSM-2142P (PMI)  
BALANCED LINE DRIVER  
- TOP VIEW -



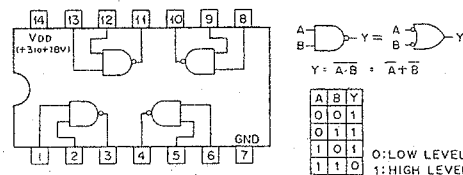
SN74LS684NS (TI) FLAT PACKAGE  
TTL 8-BIT MAGNITUDE COMPARATOR  
WITH TOTEM-POLE OUTPUTS  
- TOP VIEW -



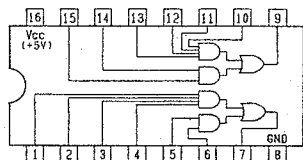
TA7805S (TOSHIBA) +5V  
TA7812S (TOSHIBA) +12V  
POSITIVE VOLTAGE REGULATOR (0.5A)  
- SIDE VIEW -



TC4011UBP (TOSHIBA)  
C-MOS 2-INPUT NAND GATE  
- TOP VIEW -



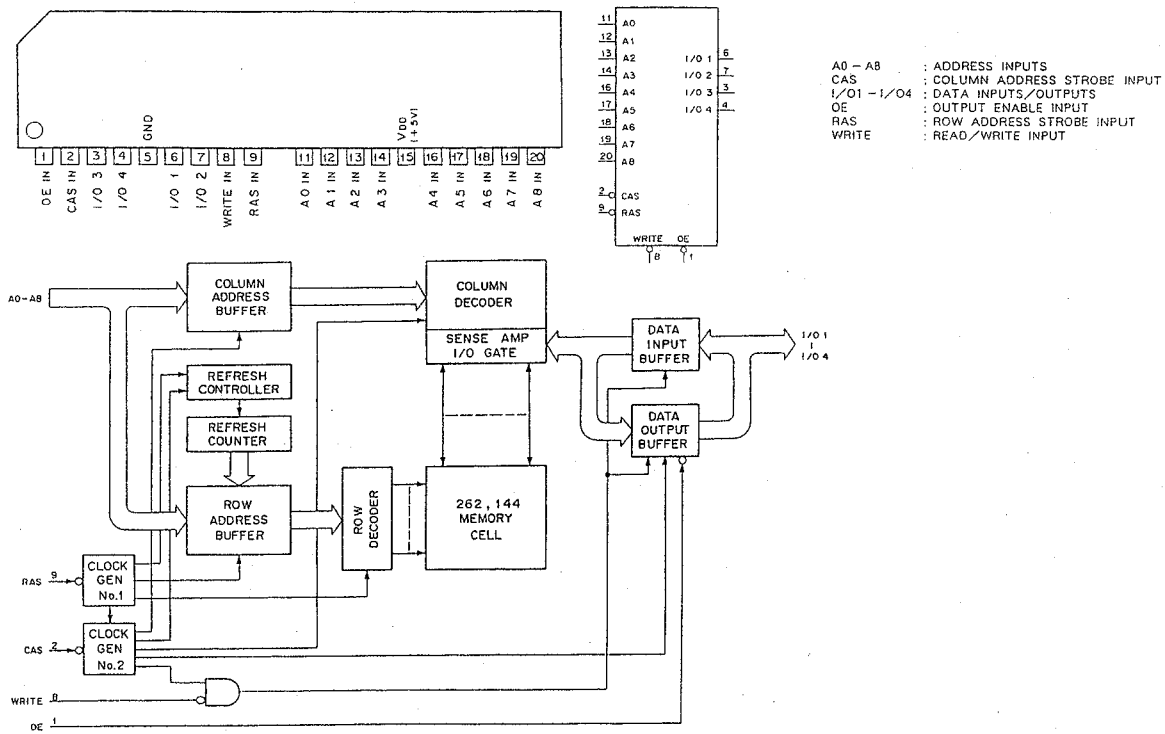
SN75123NS (TI) FLAT PACKAGE  
DUAL LINE DRIVER AND TRIPLE LINE RECEIVER  
- TOP VIEW -



TC514256BZ-60 (TOSHIBA) (ACCESS TIME=60ns)

C-MOS 1M (262,144WORDx4) -BIT MULTIPORT DYNAMIC RAM

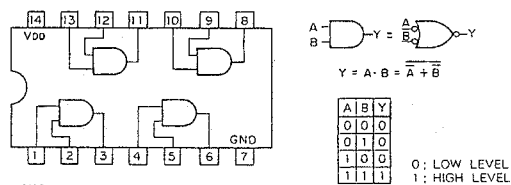
- TOP VIEW -



TC74AC08F (TOSHIBA) FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATES

- TOP VIEW -



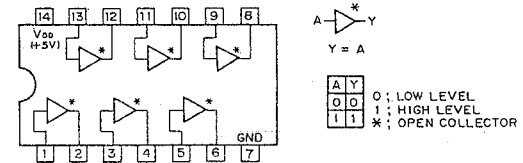
NOTE:

TYPE	V <sub>DD</sub>
TC74AC08F	+2 to +5.5V
MC74ACT08M	+2 to +5.5V
TC40H	+2 to +8V
OTHER TYPES	+2 to +6V

TC74HC07AF (TOSHIBA) FLAT PACKAGE

C-MOS BUFFER/DRIVER WITH OPEN-COLLECTOR

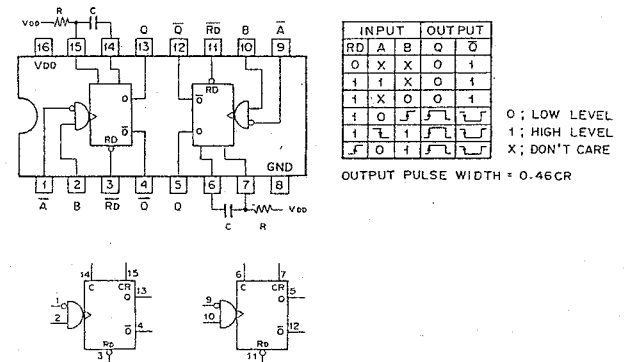
- TOP VIEW -



TC74HC123AF (TOSHIBA) FLAT PACKAGE

C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATORS

- TOP VIEW -



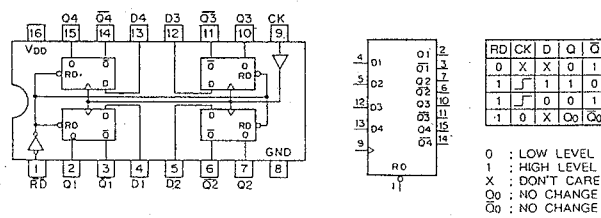
NOTE:

TYPE	V <sub>DD</sub>
TC74HCT123AF	+5V
OTHER TYPES	+2 to +6V

TC74AC175F (TOSHIBA) FLAT PACKAGE

C-MOS QUAD D-TYPE FLIP-FLOPS WITH RESET

- TOP VIEW -

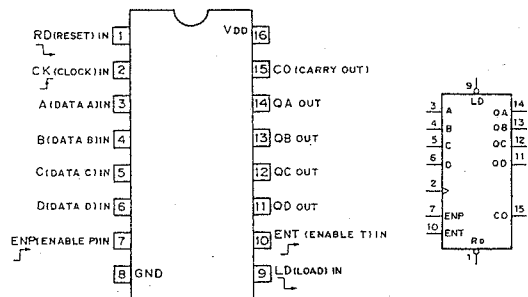


NOTE:

TYPE	V <sub>DD</sub>
AC TYPE	+2 to +5.5 V
74ACT175 TYPE	+4.5V to 5.5 V
OTHER TYPES	+2 to +6 V



TC74HC160AF (TOSHIBA)  
C-MOS SYNCHRONOUS PRESETTABLE 4-BIT DECADE COUNTER  
- TOP VIEW -



MODE SELECTION					MODE
Rd	LD	ENP	ENT		
0	X	X	X		RESET (ASYNCHRONOUS)
1	0	X	X		PRESET (SYNCHRONOUS)
1	1	0	X		NO COUNT
1	1	X	0		NO COUNT
1	1	1	1		COUNT

COUNT SEQUENCE						
COUNT	QD	QC	QB	QA	CO	
0	0	0	0	0	0	
1	0	0	0	1	0	
2	0	0	1	0	0	
3	0	0	1	1	0	
4	0	1	0	0	0	
5	0	1	0	1	0	
6	0	1	1	0	0	
7	0	1	1	1	0	
8	1	0	0	0	0	
9	1	0	0	1	1	

CARRY OUTPUT "CO"

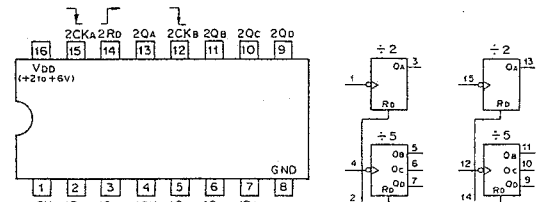


CO IS HIGH WHEN ENT INPUT IS HIGH AND COUNT IS "9".

NOTE:

TYPE	VDD
TC40H	+2. to +8V
OTHERS	+2. to +6V

TC74HC390AF (TOSHIBA) FLAT PACKAGE  
C-MOS DIVIDE-BY-2 AND DIVIDE-BY-5 COUNTER  
- TOP VIEW -



COUNT SEQUENCE

÷ 2 SECTION	
COUNT	QA
0	0
1	1

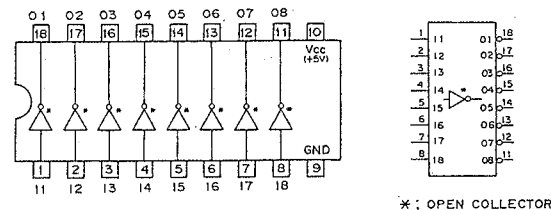
÷ 5 SECTION			
COUNT	QB	QC	QD
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0

RESET/COUNT FUNCTION

Rd	Qd	Qc	Qb	Qa
1	0	0	0	0
0	COUNT			

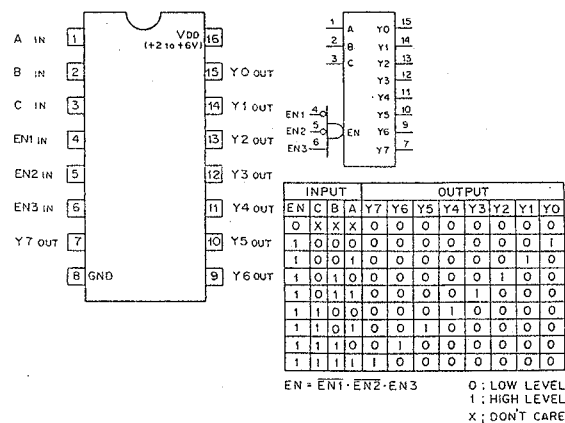
0: LOW LEVEL  
1: HIGH LEVEL

TD82381F (TOSHIBA) FLAT PACKAGE  
OCTAL LOW SATURATION DRIVER  
- TOP VIEW -



\*; OPEN COLLECTOR

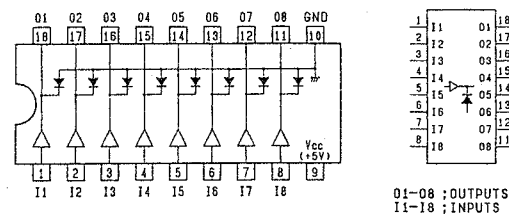
TC74HC238AF (TOSHIBA) FLAT PACKAGE  
C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER  
- TOP VIEW -



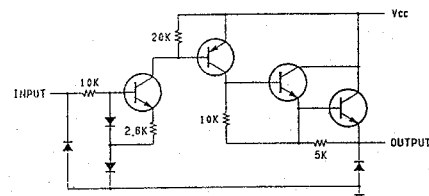
EN = EN1 · EN2 · EN3

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE

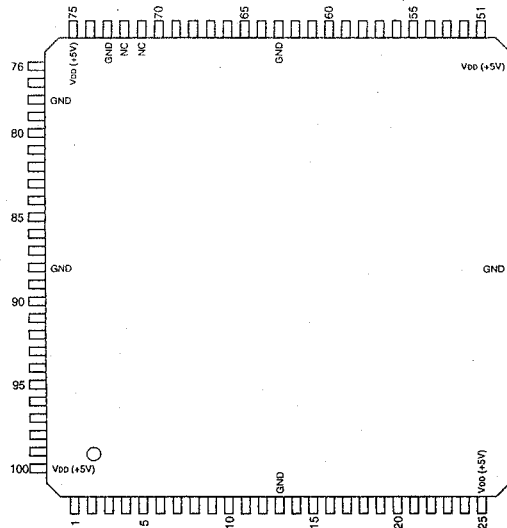
TD62783F (TOSHIBA) FLAT PACKAGE  
OCTAL DRIVER  
- TOP VIEW -



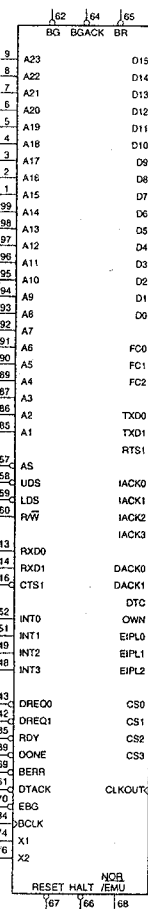
01-08 ; OUTPUTS  
11-18 ; INPUTS



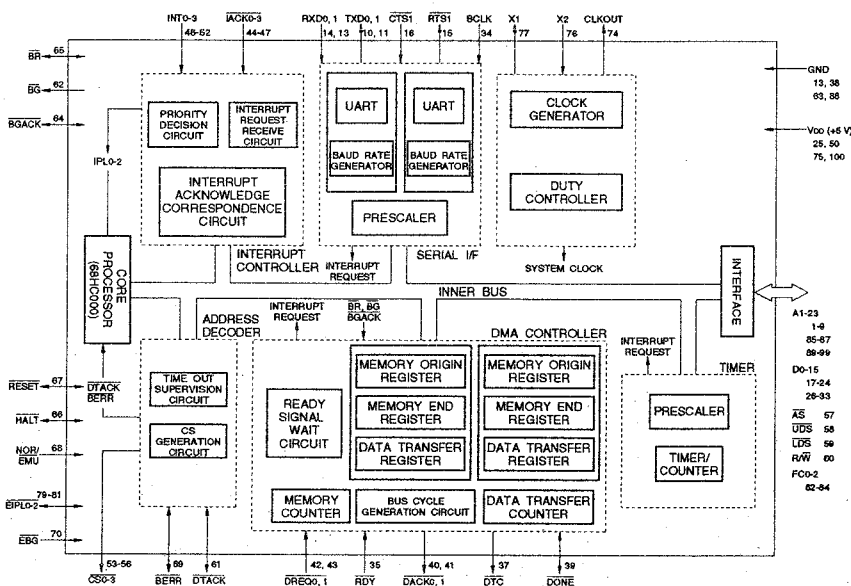
TMP68305F-16  
C-MOS 16-BIT MICRO PROCESSOR  
- TOP VIEW -



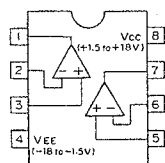
PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL
1	I/O	A15	26	I/O	D7	51	I	INT1	76	I	X2
2	I/O	A16	27	I/O	D6	52	I	INT0	77	O	X1
3	I/O	A17	28	I/O	D5	53	O	CS3	78	—	GND
4	I/O	A18	29	I/O	D4	54	O	CS2	79	I/O	EIPL2
5	I/O	A19	30	I/O	D3	55	O	CS1	80	I/O	EIPL1
6	I/O	A20	31	I/O	D2	56	O	CS0	81	I/O	EIPL0
7	I/O	A21	32	I/O	D1	57	I/O	AS	82	I/O	FC2
8	I/O	A22	33	I/O	D0	58	I/O	UDS	83	I/O	FC1
9	I/O	A23	34	I	BCLK	59	I/O	LDS	84	I/O	FC0
10	O	TXD0	35	I	RDY	60	I/O	RW	85	I/O	A1
11	O	TXD1	36	O	OWN	61	I/O	DTACK	86	I/O	A2
12	I	RXD0	37	O	DTC	62	O	BG	87	I/O	A3
13	—	GND	38	—	GND	63	—	GND	88	—	GND
14	I	RXD1	39	I/O	DONE	64	I/O	BGACK	89	I/O	A4
15	O	RTS1	40	O	DACK1	65	I/O	BR	90	I/O	A5
16	I	CTS1	41	O	DACK0	66	I/O	HALT	91	I/O	A6
17	I/O	D15	42	I	DREQ1	67	I/O	RESET	92	I/O	A7
18	I/O	D14	43	I	DREQ0	68	I	NOREMU	93	I/O	A8
19	I/O	D13	44	O	IACK3	69	I/O	BERR	94	I/O	A9
20	I/O	D12	45	O	IACK2	70	I	EBG	95	I/O	A10
21	I/O	D11	46	O	IACK1	71	—	NC	96	I/O	A11
22	I/O	D10	47	O	IACK0	72	—	NC	97	I/O	A12
23	I/O	D9	48	I	INT3	73	—	GND	98	I/O	A13
24	I/O	D8	49	I	INT2	74	O	CLKOUT	99	I/O	A14
25	—	VDD	50	—	VDD	75	—	VDD	100	—	VDD



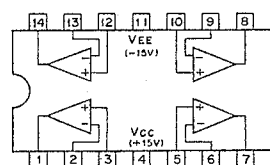
- INPUT**
- BCLK : BAUD RATE CLOCK
  - CTS1 : CLEAR TO SEND
  - DREQ0,1 : DMA REQUESTS
  - EBG : EMULATION BUS GRANT
  - INT0-3 : INTERRUPT REQUESTS
  - NOREMU : MODE SELECT
  - RDY : READY
  - RXD0,1 : SERIAL DATA
  - X2 : CRYSTAL
- OUTPUT**
- BG : BUS GRANT
  - CLKOUT : SYSTEM CLOCK
  - CS0-3 : CHIP SELECTS
  - DACK0,1 : DMA ACKNOWLEDGE
  - DTC : DATA TRANSFER COMPLETE
  - IACK0-3 : INTERRUPT ACKNOWLEDGE
  - OWN : THIS SIGNAL INDICATES THAT INTERNAL DMA CONTROLLER IS BUS MASTER.
  - RTS1 : REQUEST TO SEND
  - TXD0,1 : SERIAL DATA
  - X1 : CRYSTAL
- INPUT/OUTPUT**
- A1-23 : ADDRESS BUS
  - AS : ADDRESS STROBE
  - BERR : BUS ERROR
  - BGACK : BUS GRANT ACKNOWLEDGE
  - BR : BUS REQUEST
  - D0-15 : DATA BUS
  - DTACK : DATA TRANSFER ACKNOWLEDGE
  - DONE : DMA FORBIDDANCE/FORCED END/TRANSFER END
  - EIPL0-2 : EMULATION INTERRUPT CONTROL
  - FC0-2 : FUNCTION CORDS
  - HALT : HALT
  - LDS : LOWER DATA STROBE
  - RESET : RESET
  - RW : READ/WRITE
  - UDS : UPPER DATA STROBE



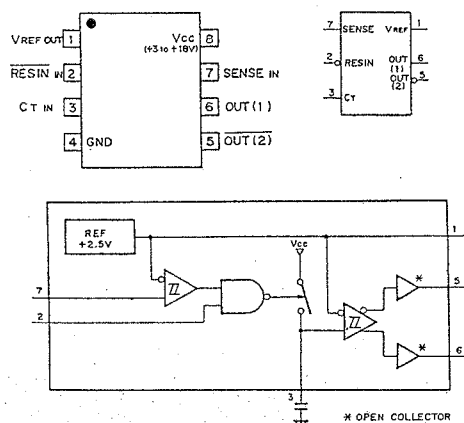
TL082CPS (TI) FLAT PACKAGE  
TL082M (TI)  
OPERATIONAL AMPLIFIER  
(JFET INPUT)  
- TOP VIEW -



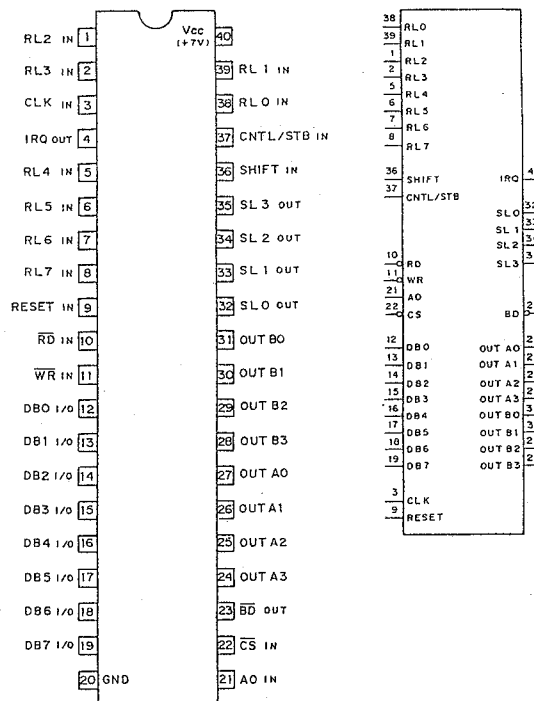
TL084CNS (TI) FLAT PACKAGE  
OPERATIONAL AMPLIFIER  
(JFET-INPUT)  
- TOP VIEW -



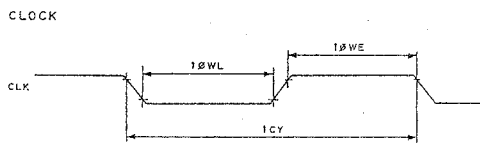
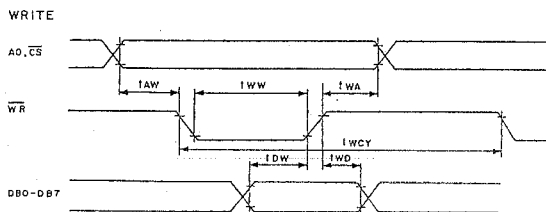
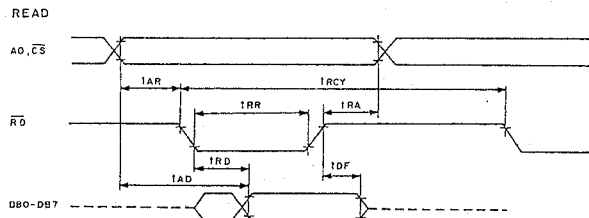
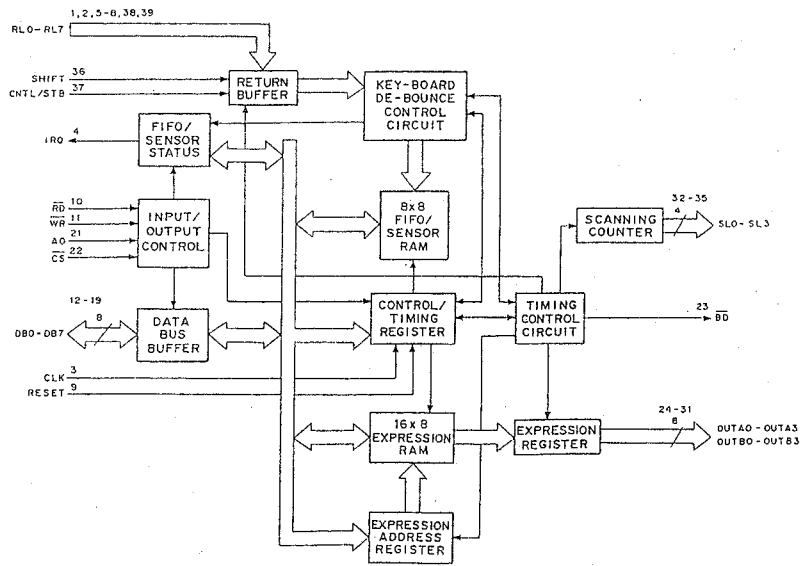
TL7705ACPS (TI) FLAT PACKAGE  
POWER VOLTAGE SUPERVISOR  
- TOP VIEW -



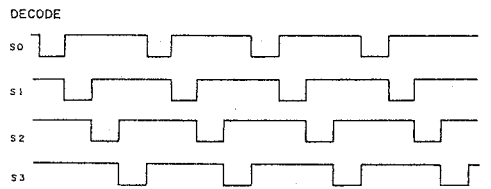
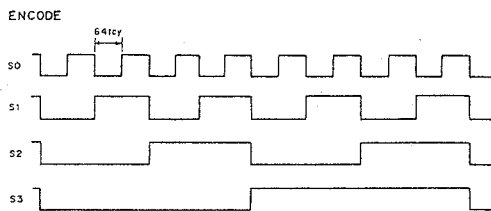
TMP82C79M-2 (TOSHIBA) FLAT PACKAGE  
C-MOS PROGRAMABLE KEY-BOARD/DISPLAY INTERFACE DEVICE  
- TOP VIEW -



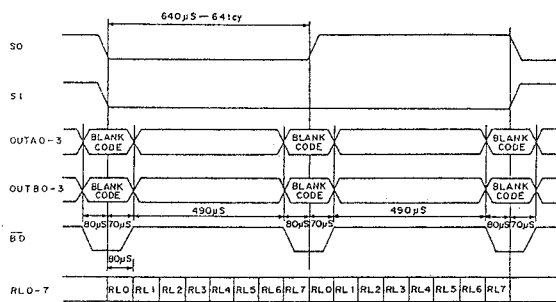
AO ; COMMAND/DATA CONTROL INPUT  
BD ; DISPLAY BLANKING OUTPUT  
CLK ; CLOCK INPUT  
CNTL/STB ; CONTROL/STROBE INPUT  
CS ; CHIP SELECT INPUT  
DB0-DB7 ; DATA BUS INPUT/OUTPUT  
IRQ ; INTERRUPT REQUEST OUTPUT  
OUT A0-A3 ; 16x4 BIT EXPRESSION REFRESH REGISTER  
OUT B0-B3 ; 16x4 BIT EXPRESSION REFRESH REGISTER  
RD ; READ STROBE INPUT  
RESET ; RESET INPUT  
RL0-RL7 ; RETURN LINE INPUT  
SHIFT ; SHIFT INPUT  
SLO-SL3 ; SCANNING LINE OUTPUT  
WR ; WRITE STROBE INPUT



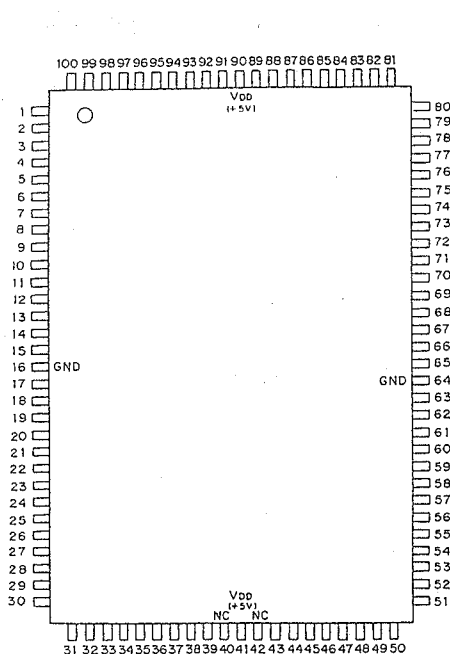
#### SCANNING



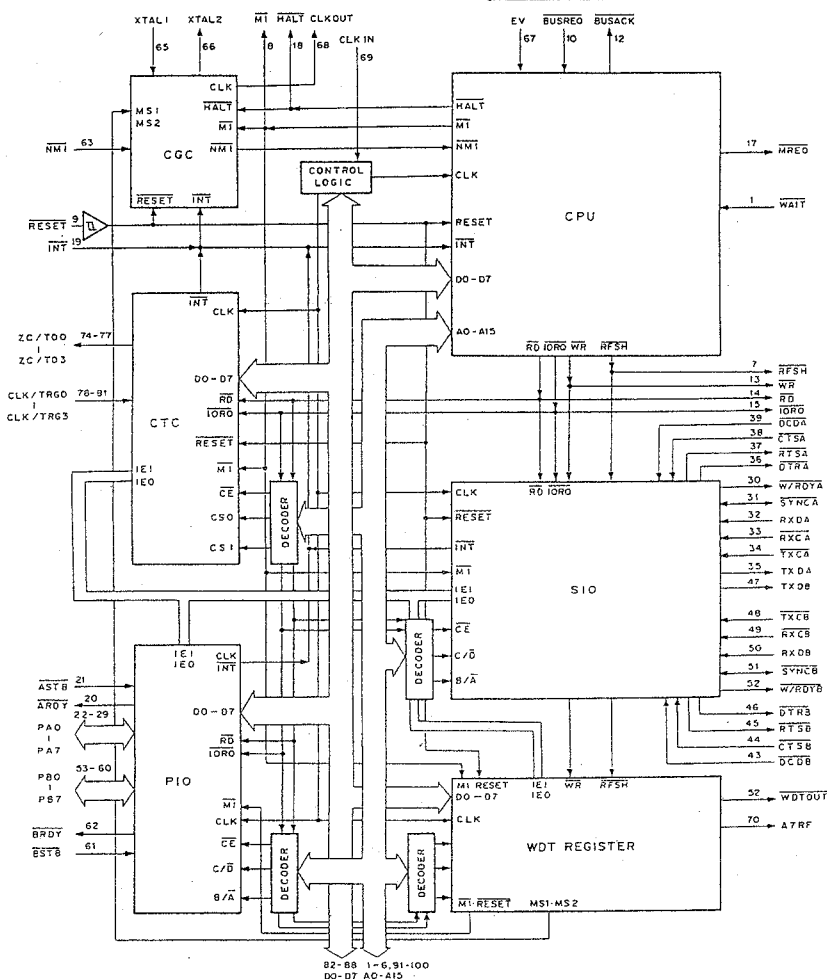
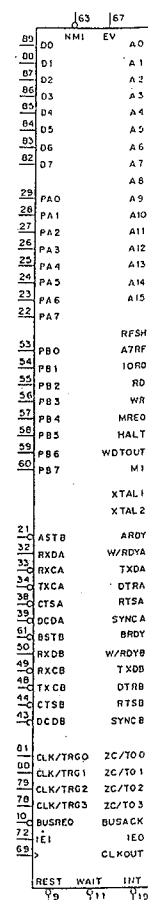
#### EXPRESSION



TMPZ84C015BF-6 (TOSHIBA) FLAT PACKAGE  
C-MOS 8-BIT MICROPROCESSOR  
- TOP VIEW -

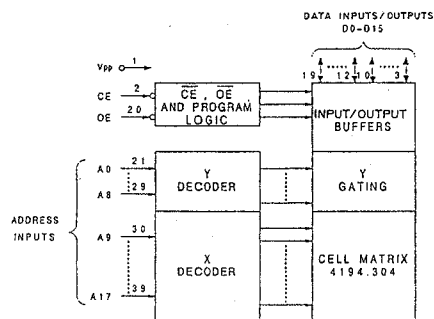
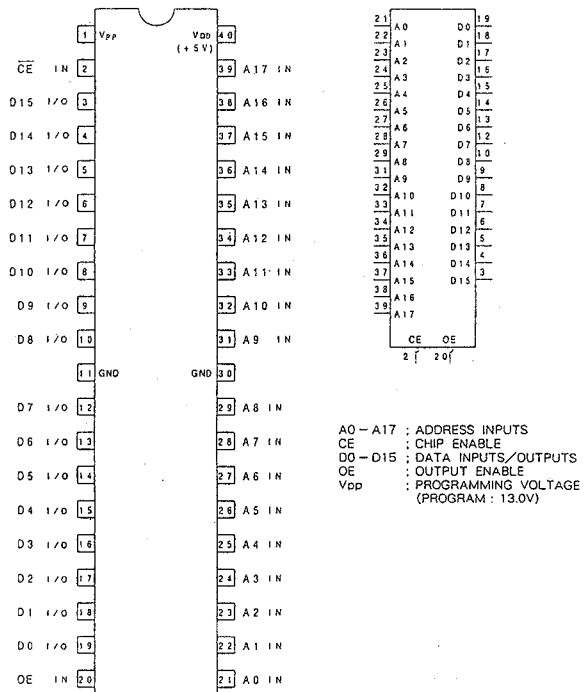


NO.	IN	OUT	SYMBOL	NO.	IN	OUT	SYMBOL
1	O		A5	51	O		SYNCB
2	O		A4	52	O		W/RDYB
3	O		A3	53	O		PB0
4	O		A2	54	O		PB1
5	O		A1	55	O		PB2
6	O		A0	56	O		PB3
7	O		RFSH	57	O		PB4
8	O		M1	58	O		PB5
9	O		REST	59	O		PB6
10	O		BUSREQ	60	O		PB7
11	O		WAIT	61	O		BSTB
12	O		BUSACK	62	O		BRDY
13	O		WR	63	O		NMI
14	O		RD	64			GND
15	O		IORK	65	O		XTAL1
16	O		GND	66	O		XTAL2
17	O		MREQ	67	O		EV
18	O		HALT	68	O		CLKOUT
19	O		INT	69	O		CLKIN
20	O		ARDY	70	O		A7RF
21	O		ASTB	71	O		IEO
22	O		PA7	72	O		IEI
23	O		PA6	73	O		WDOUT
24	O		PA5	74	O		ZC/T00
25	O		PA4	75	O		ZC/T01
26	O		PA3	76	O		ZC/T02
27	O		PA2	77	O		ZC/T03
28	O		PA1	78	O		CLK/TRG3
29	O		PA0	79	O		CLK/TRG2
30	O		W/RDYA	80	O		CLK/TRG1
31	O		SYNCA	81	O		CLK/TRG0
32	O		RXDA	82	O		D7
33	O		RXCA	83	O		D6
34	O		TXCA	84	O		D5
35	O		TXDA	85	O		D4
36	O		DTRA	86	O		D3
37	O		RTSA	87	O		D2
38	O		CTSA	88	O		D1
39	O		DCDA	89	O		D0
40	O		NC	90			VDD
41	O		VDD	91	O		A15
42	O		NC	92	O		A14
43	O		DCDB	93	O		A13
44	O		CTSB	94	O		A12
45	O		RTSB	95	O		A11
46	O		DTRB	96	O		A10
47	O		TXDB	97	O		A9
48	O		TXCB	98	O		A8
49	O		RXCB	99	O		A7
50	O		RXDB	100	O		A6



A0-A15 ; 3-STATE ADDRESS BUS OUTPUTS.  
BUSACK ; BUS ACKNOWLEDGE OUTPUT  
BUSREQ ; BUS REQUEST INPUT  
CLK/TRG0-3 ; EXTERNAL CLOCK/TIMER TRIGGER 0-3 INPUTS  
D0-D7 ; 3-STATE DATA BUS INPUTS/OUTPUTS  
EV ; EVALUATOR INPUT  
HALT ; HALT OUTPUT  
IEI/IEO ; CTC INTERRUPT ENABLE INPUT/OUTPUT  
INT ; MASKABLE INTERRUPT REQUEST/INPUT  
IORK ; 3-STATE I/O REQUEST OUTPUT  
M1 ; 3-STATE MACHINE CYCLE 1 OUTPUT  
MREQ ; 3-STATE MEMORY REQUEST OUTPUT  
NMI ; NON-MASKABLE INTERRUPT REQUEST INPUT  
PA0-PA7, PB0-PB7 ; 3-STATE I/O PORT  
RD ; 3-STATE READ OUTPUT  
REST ; RESET INPUT  
RFSH ; REFRESH OUTPUT  
WAIT ; WAIT REQUEST INPUT  
WR ; 3-STATE WRITE OUTPUT  
ZC/T00-3 ; ZERO COUNT/TIME OUT 0-3 OUTPUTS  
ASTB ; PORT A STROBE PULSE INPUT  
ARDY ; REGISTER A READY OUTPUT  
BSTB ; PORT B STROBE PULSE INPUT  
BRDY ; REGISTER B READY OUTPUT  
SYNCA, SYNCB ; SYNC INPUT/OUTPUT  
W/RDYA, W/RDYB ; WAIT/READY OUTPUT  
RXDA, RXDB ; SERIAL DATA INPUT  
TXCA, TXCB ; RECEIVE CLOCK INPUT  
TXDA, TXDB ; TRANSMISSION CLOCK INPUT  
DTRA, DTRB ; DATA TERMINAL READY OUTPUT  
RTSA, RTSB ; TRANSMISSION REQUEST OUTPUT  
CTSA, CTDB ; TRANSMISSION ENABLE INPUT  
DCDA, DCDB ; DATA CARRIER DETECT OUTPUT  
WDOUT ; WATCH DOG TIMER OUTPUT

TMS27C240-12JL (TI)  
C-MOS 4M (262Kx16)-BIT UV EPROM  
- TOP VIEW -

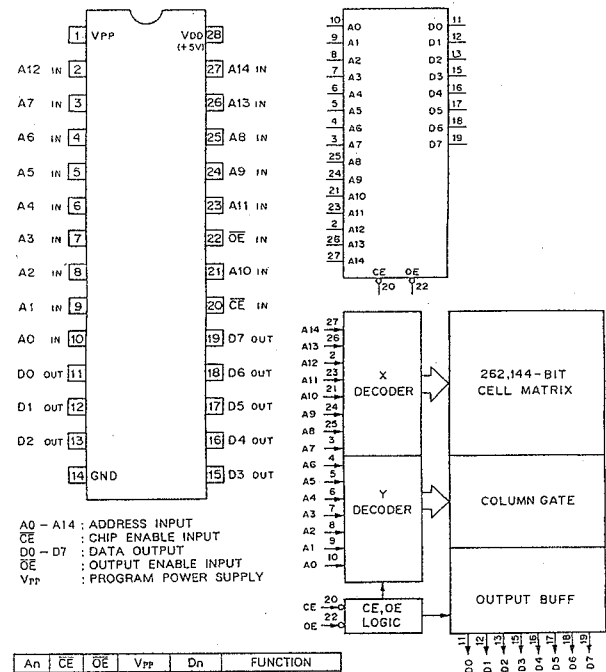


ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

CE	OE	Vpp	Vdd	A9	A0	DO - D15	FUNCTION
0	0	Vdd	Vdd	X	X	Dout	READ
0	1	Vdd	Vdd	X	X	Hi-Z	OUTPUT DISABLE
0	1	Vpp	Vdd	X	X	Din	PROGRAMMING
1	0	Vpp	Vdd	X	X	Dout	VERIFY
1	1	Vpp	Vdd	X	X	Hi-Z	PROGRAM INHIBIT
1	X	Vdd	Vdd	X	X	Hi-Z	STANDBY
0	0	Vdd	Vdd	VH	0	97 (MAKER CODE)	SIGNATURE MODE
				VH	1	30 (DEVICE CODE)	

1 : HIGH LEVEL  
0 : LOW LEVEL  
X : DON'T CARE  
Hi-Z : HIGH IMPEDANCE  
VH : 12.0 ± 0.5 V

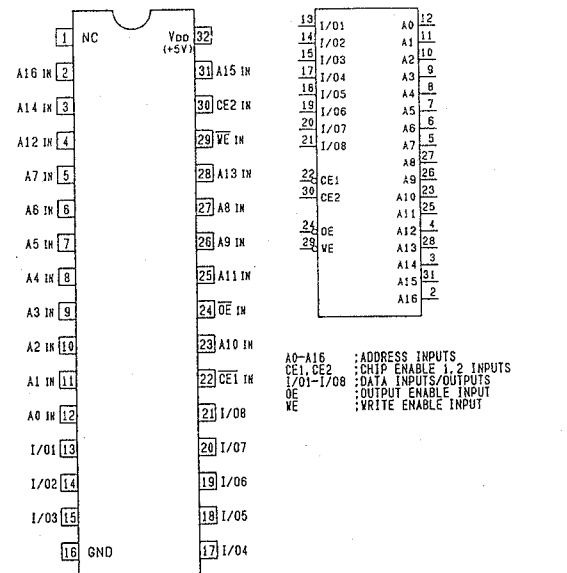
TMS27C256-12JL (TI)  
C-MOS 256K (32Kx8) -BIT ERASABLE PROM WITH 3-STATE OUTPUTS  
- TOP VIEW -



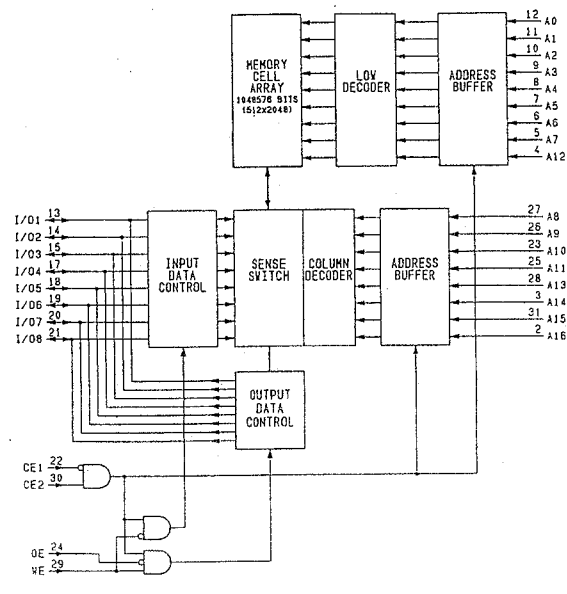
An	CE	OE	Vpp	Dn	FUNCTION
An	0	0	+5V	Dout	READ
An	0	1	+5V	Hi-Z	OUTPUT DISABLE
X	1	X	+5V	Hi-Z	STANDBY
An	0	1	+21V	Din	PGM
An	0	0	+21V	Dout	PGM VERIFY
X	1	1	+21V	Hi-Z	PGM INH

0 : LOW LEVEL  
1 : HIGH LEVEL  
X : DON'T CARE  
Hi-Z : HIGH IMPEDANCE

UPD431000AGW-70L (NEC) FLAT PACKAGE  
C-MOS 1M (128kx8)-BIT STATIC RAM  
- TOP VIEW -



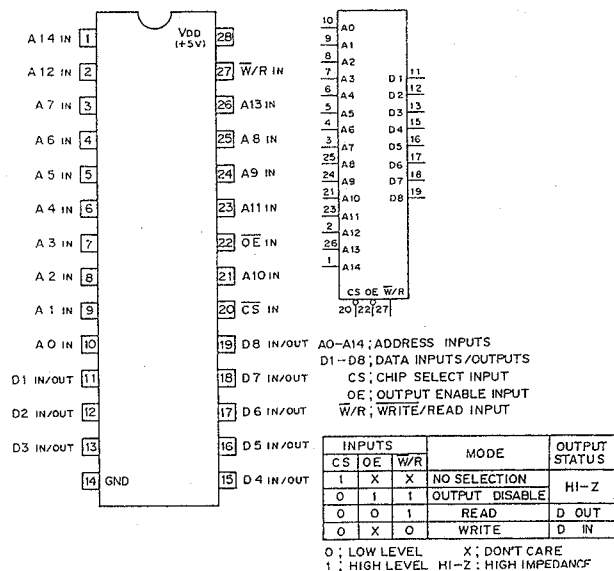
A0-A16 : ADDRESS INPUTS  
CE1, CE2 : CHIP ENABLE 1, 2 INPUTS  
I/O1-I/O8 : DATA INPUTS/OUTPUTS  
OE : OUTPUT ENABLE INPUT  
WE : WRITE ENABLE INPUT



CE1	CE2	OE	WE	MODE	DATA OUTPUT
1	X	X	X	NO SELECTION (POWER DOWN)	HI-Z
X	0	X	X	OUTPUT DISABLE	HI-Z
0	1	0	1	READ	D OUT
0	1	1	0	WRITE	D IN

0 : LOW LEVEL  
1 : HIGH LEVEL  
X : DON'T CARE  
HI-Z : HIGH IMPEDANCE

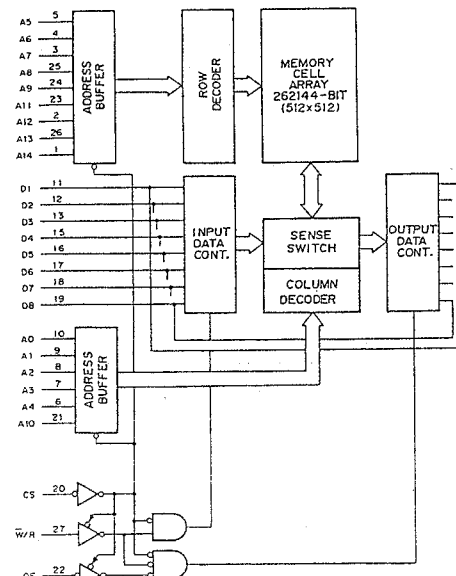
UPD43256AGU-10L (NEC) FLAT PACKAGE  
UPD43256AGU-10LL (NEC)  
C-MOS 262144-BIT (32768x8) STATIC RAM  
- TOP VIEW -



A0-A14 : ADDRESS INPUTS  
D1-D8 : DATA INPUTS/OUTPUTS  
CS : CHIP SELECT INPUT  
OE : OUTPUT ENABLE INPUT  
W/R : WRITE/READ INPUT

INPUTS	MODE	OUTPUT STATUS
CS OE W/R		
1 X X	NO SELECTION	HI-Z
0 1 1	OUTPUT DISABLE	HI-Z
0 0 1	READ	D OUT
0 X 0	WRITE	D IN

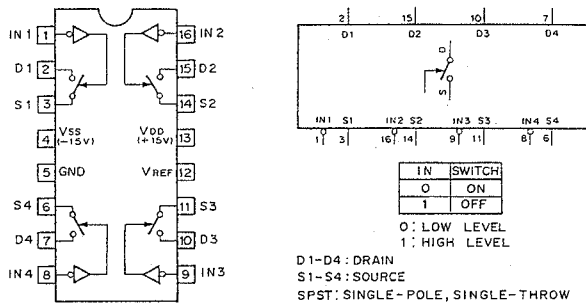
0 : LOW LEVEL X : DON'T CARE  
1 : HIGH LEVEL HI-Z : HIGH IMPEDANCE





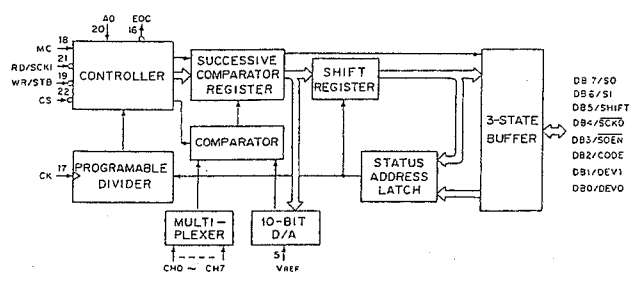
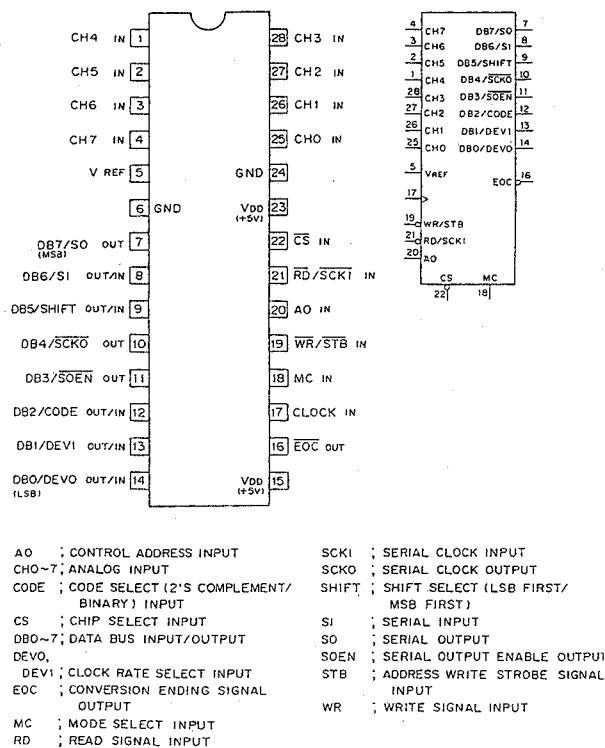
# UPD5201C (NEC)

## C-MOS QUAD SPST ANALOG SWITCH - TOP VIEW -



# UPD7004C (NEC)

## C-MOS 10-BIT SUCCESSIVE COMPARATOR TYPE A/D CONVERTER - TOP VIEW -



MC	MODE
0	SERIAL
1	PARALLEL

PARALLEL MODE				MODE	
CS	WR	RD	AO		
1	X	X	X	HIGH IMPEDANCE	
0	1	1	X	HIGH IMPEDANCE	
0	0	1	0	#1 ANALOG CHANNEL SELECT	
0	0	1	1	#2 CODE SELECT/	
0	1	0	0	#3 CLOCK RATE SELECT	
0	1	0	1	#4 LOW-BYTE DATA OUTPUT	
0	1	0	1	#4 HIGH-BYTE DATA OUTPUT	
0	0	0	X	INHIBIT	

#1 ANALOG CHANNEL				MPX CHAN.	
SEL2	SEL1	SELO			
0	0	0			CH0
0	0	1			CH1
0	1	0			CH2
0	1	1			CH3
1	0	0			CH4
1	0	1			CH5
1	1	0			CH6
1	1	1			CH7

#2 CODE SELECT	
CODE	CODE SELECT
0	BINARY DATA
1	2'S COMPLEMENT DATA

#3 CLOCK RATE SELECT		
DEV1	DEV0	CLOCK RATE
0	0	1
0	1	1/2
1	0	1/4
1	1	1/8

#4 LOW/HIGH-BYTE DATA							
	DB7	DB6	DB5	DB4	DB3	DB2	DB1
HIGH-BYTE	MSB	2ND	3RD	4TH	5TH	6TH	7TH
LOW-BYTE	9TH	0	0	0	0	0	0

## SECTION 6 SPARE PARTS

### 6-1. 補修用部品注意事項

#### (1) 安全重要部品

回路図、分解図、電気部品表中、△印の部品は安全性を維持するために重要な部品です。従ってこれらの部品を交換するときには必ず指定の部品と交換して下さい。

#### (2) 部品の共通化

ソニーから供給される部品はセットに実装されているものと異なることがあります。これは部品の共通化、改良等によるものです。  
分解図や電気部品表には現時点での共通化された部品が記載されています。

#### (3) 部品の在庫

部品表のSP (Supply code) 欄にoで示される部品は交換頻度が低い部品ですので在庫していないことがあり、納期が長くなることがあります。

#### (4) コンデンサ、インダクタ、抵抗の単位

回路図、分解図、電気部品表中、特に明記したものを除き、下記の単位は省略されています。

コンデンサ :  $\mu\text{F}$

インダクタ :  $\mu\text{H}$

抵抗 :  $\Omega$

### 6-1. NOTES ON SPARE PARTS

#### (1) Safety Related Components Warning

Components marked with  $\Delta$  on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

#### (2) Standardization of Parts

Repair parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".

This manual's exploded views and electrical spare parts list are indicating the part numbers of "the standardized genuine parts at present".

#### (3) Stock of Parts

Parts marked with "o" SP (Supply Code) column of the spare parts list are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.

#### (4) Units for Capacitors, Inductors and Resistors

The following units are assumed in schematic diagrams, electrical parts list and exploded views unless otherwise specified.

Capacitors :  $\mu\text{F}$

Inductors :  $\mu\text{H}$

Resistors :  $\Omega$

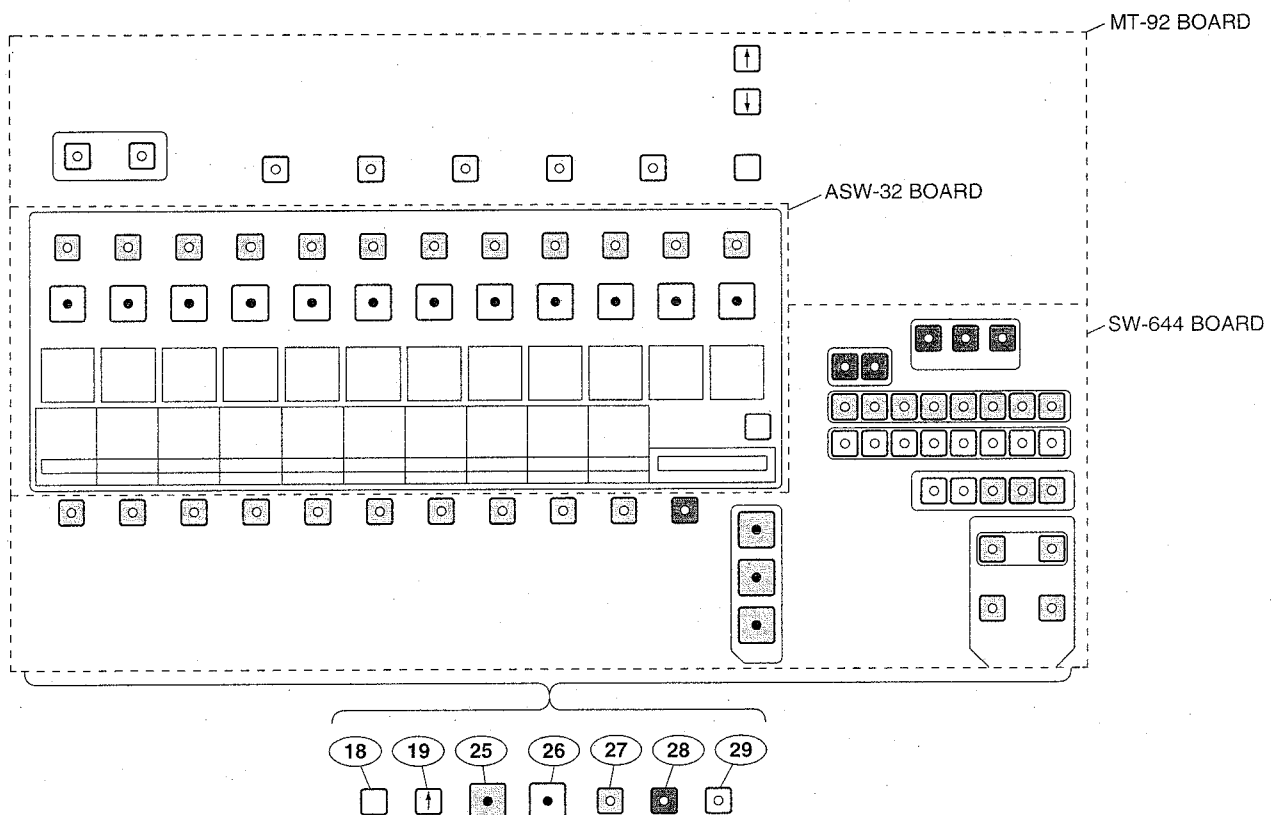
## 6-2. EXPLODED VIEWS

### • INDEX

	Page
(1) CONTROL PANEL BLOCK.....	6-2
(2) REAR PANEL BLOCK.....	6-4

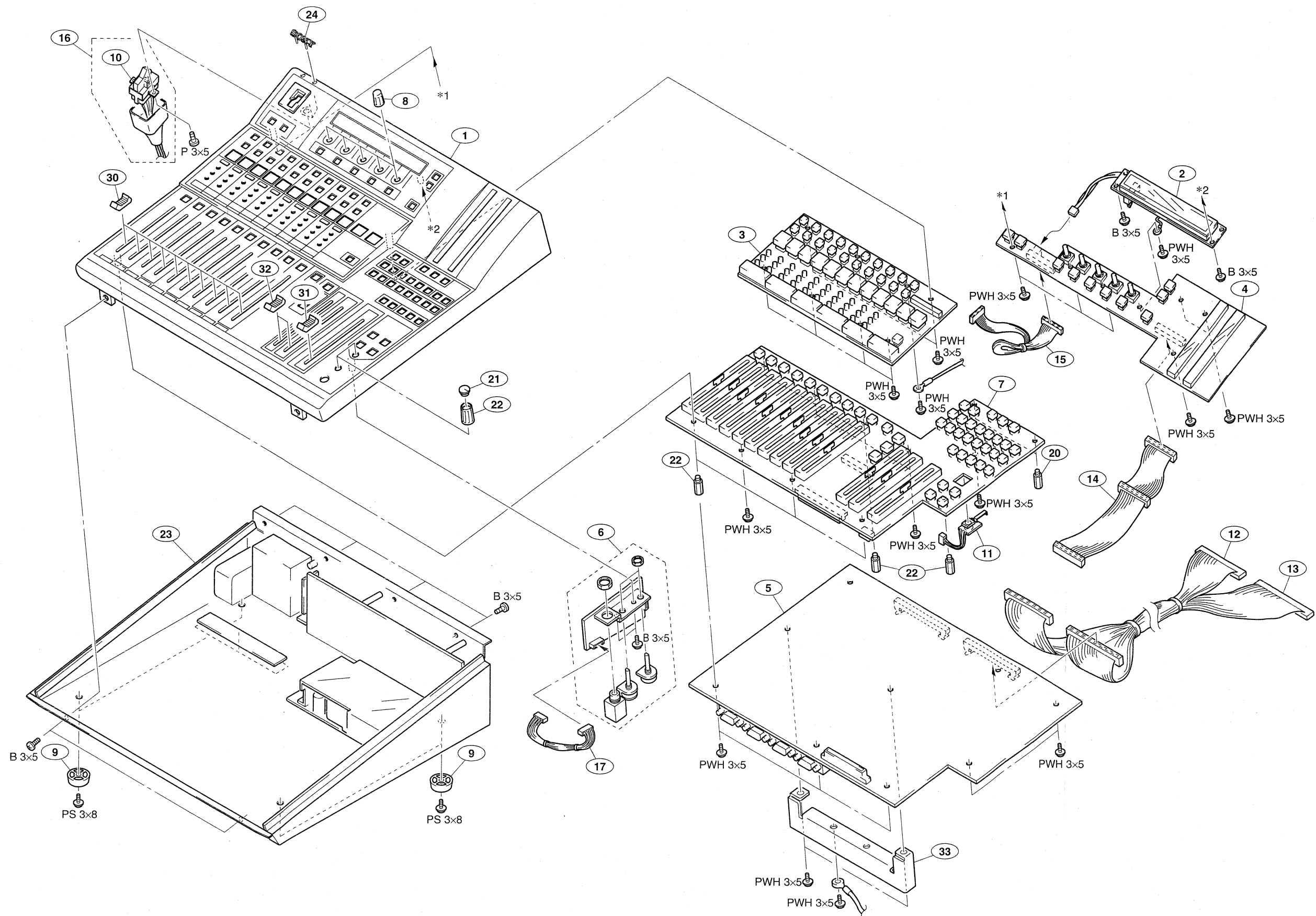
No.	Part No.	SP Description	No.	Part No.	SP Description
1	A-8267-897-A	o SUB ASSY, CONTROL PANEL	21	3-180-426-01	s KNOB CAP (Fai 13)
2	A-8267-927-A	s LCD ASSY	22	3-180-434-01	s KNOB (Fai 13)
3	A-8275-498-A	o MOUNTED CIRCUIT BOARD, ASW-32	23	3-183-513-02	o CASE
4	A-8275-499-A	o MOUNTED CIRCUIT BOARD, MT-92	24	4-908-848-31	s EMBLEM, SONY
5	A-8275-500-A	o MOUNTED CIRCUIT BOARD, MIX-17	25	4-927-278-01	s KEY TOP
6	A-8275-501-A	o MOUNTED CIRCUIT BOARD, VR-174	26	4-927-278-41	s KEY TOP
7	A-8275-504-A	o MOUNTED CIRCUIT BOARD, SW-644	27	4-928-315-01	s KEY TOP
8	X-3167-051-1	s KNOB ASSY, BOLUME	28	4-928-315-31	s KEY TOP
9	X-3556-910-0	s FOOT ASSY, MF	29	4-928-315-71	s KEY TOP
10	△ 1-570-744-21	s SWITCH, AC POWER	30	4-937-102-01	s KNOB, FADER
11	1-609-885-00	o PRINTED CIRCUIT BOARD, MIC	31	4-937-102-11	s KNOB, FADER
12	1-952-927-11	o HARNESS, MIX1	32	4-937-102-21	s KNOB, FADER
13	1-952-928-11	o HARNESS, MIX2	33	Pending	o BLACKET
14	1-952-929-11	o HARNESS, INSIDE BUS			
15	1-952-930-11	o HARNESS, MT-LCD			
16	△ 1-952-931-12	o HARNESS, P/S 1			
17	1-952-933-11	o HARNESS, SW-VR			
18	2-140-311-05	s KEY TOP			
19	2-140-311-07	s KEY TOP			
20	3-180-281-01	o SUPPORT, PCB			

### KEY TOP



CONTROL PANEL BLOCK

CONTROL PANEL BLOCK      CONTROL PANEL BLOCK

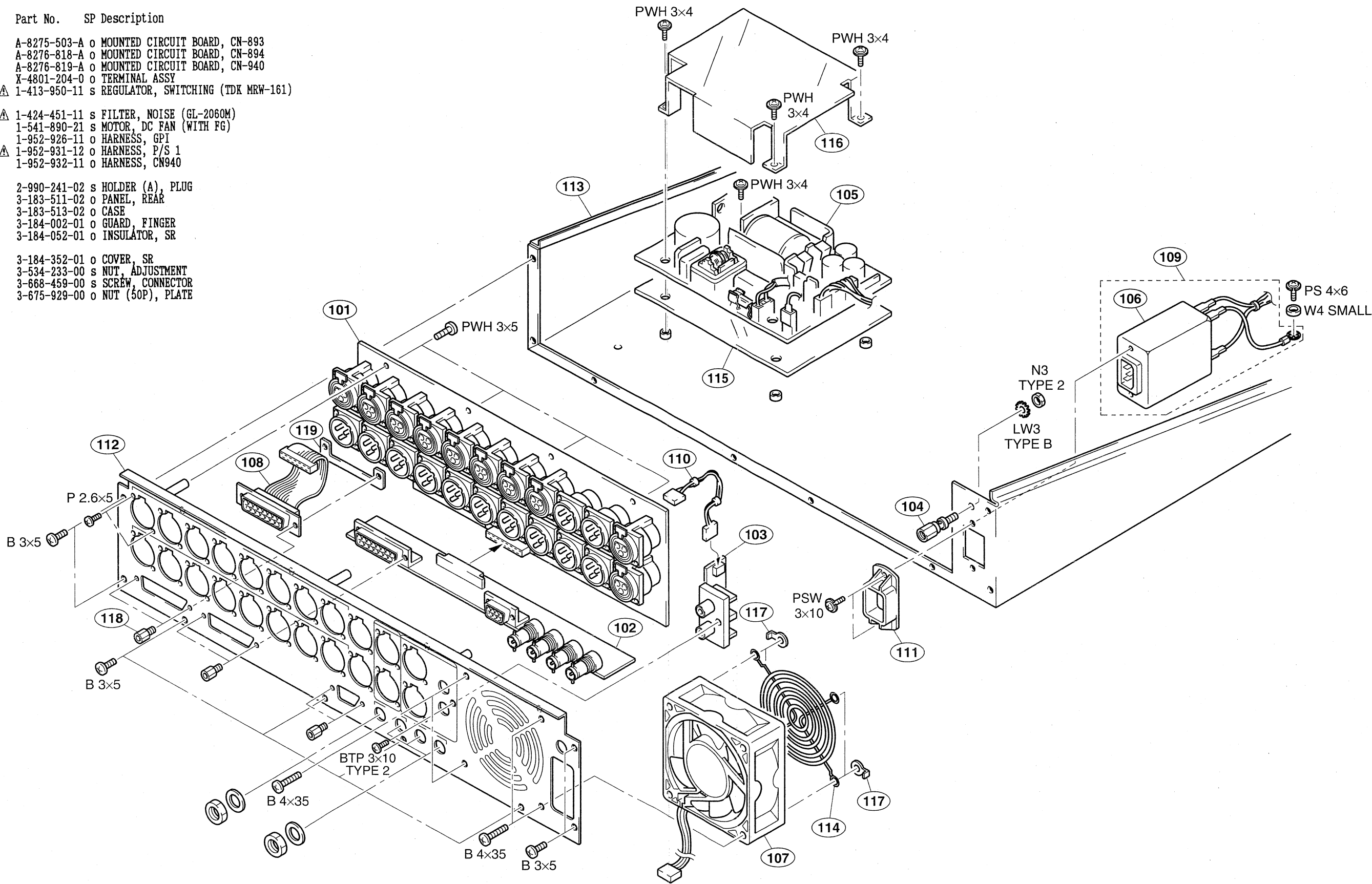


# REAR PANEL BLOCK

# REAR PANEL BLOCK

## REAR PANEL BLOCK

No.	Part No.	SP Description
101	A-8275-503-A	o MOUNTED CIRCUIT BOARD, CN-893
102	A-8276-818-A	o MOUNTED CIRCUIT BOARD, CN-894
103	A-8276-819-A	o MOUNTED CIRCUIT BOARD, CN-940
104	X-4801-204-0	o TERMINAL ASSY
105	1-413-950-11	s REGULATOR, SWITCHING (TDK MRW-161)
106	1-424-451-11	s FILTER, NOISE (GL-2060M)
107	1-541-890-21	s MOTOR, DC FAN (WITH FG)
108	1-952-926-11	o HARNESS, GPI
109	1-952-931-12	o HARNESS, P/S 1
110	1-952-932-11	o HARNESS, CN940
111	2-990-241-02	s HOLDER (A), PLUG
112	3-183-511-02	o PANEL, REAR
113	3-183-513-02	o CASE
114	3-184-002-01	o GUARD, FINGER
115	3-184-052-01	o INSULATOR, SR
116	3-184-352-01	o COVER, SR
117	3-534-233-00	s NUT, ADJUSTMENT
118	3-668-459-00	s SCREW, CONNECTOR
119	3-675-929-00	o NUT (50P), PLATE



### 6-3. ELECTRICAL PARTS LIST

NOTE : For the # marked in the following parts list,  
refer to Section 7 "CHANGED PARTS".

#### ----- CAPACITOR, CHIP CERAMIC -----

##### Part No.      SP Description

1-163-239-11	s	CAP, CHIP CERAMIC	33PF	5% 50V
1-163-243-11	s	CAP, CHIP CERAMIC	47PF	5% 50V
1-163-251-11	s	CAP, CHIP CERAMIC	100PF	5% 50V
1-163-037-11	s	CAP, CHIP CERAMIC	0.022	10% 25V
1-163-989-11	s	CAP, CHIP CERAMIC	0.033	10% 25V
1-164-004-11	s	CAP, CHIP CERAMIC	0.1	10% 25V
1-163-038-00	s	CAP, CHIP CERAMIC	0.1	50V
1-164-489-11	s	CAP, CHIP CERAMIC	0.22	10% 16V

#### ----- CAPACITOR, ELECTROLYTIC -----

##### Part No.      SP Description

1-126-966-11	s	CAP, ELECT	33	20% 50V
1-126-947-11	s	CAP, ELECT	47	20% 35V
1-126-933-11	s	CAP, ELECT	100	20% 16V
1-126-948-11	s	CAP, ELECT	100	20% 35V
1-126-924-11	s	CAP, ELECT	330	20% 10V
1-126-940-11	s	CAP, ELECT	330	20% 25V
1-126-941-11	s	CAP, ELECT	470	20% 25V

#### ----- RESISTOR, CHIP -----

##### Part No.      SP Description

1-216-295-00	s	RES, CHIP	0	5% 1/10W
1-216-025-00	s	RES, CHIP	100	5% 1/10W
1-216-031-00	s	RES, CHIP	180	5% 1/10W
1-216-033-00	s	RES, CHIP	220	5% 1/10W
1-216-037-00	s	RES, CHIP	330	5% 1/10W
1-216-041-00	s	RES, CHIP	470	5% 1/10W
1-216-043-00	s	RES, CHIP	560	5% 1/10W
1-216-049-00	s	RES, CHIP	1k	5% 1/10W
1-216-057-00	s	RES, CHIP	2.2k	5% 1/10W
1-216-065-00	s	RES, CHIP	4.7k	5% 1/10W
1-216-073-00	s	RES, CHIP	10k	5% 1/10W
1-216-089-91	s	RES, CHIP	47K	5% 1/10W
1-216-097-00	s	RES, CHIP	100k	5% 1/10W
1-216-105-00	s	RES, CHIP	220K	5% 1/10W
1-216-113-00	s	RES, CHIP	470K	5% 1/10W
1-216-121-00	s	RES, CHIP	1.0M	5% 1/10W

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ASW-32 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8275-498-A	o MOUNTED CIRCUIT BOARD, ASW-32
1pc	2-140-311-05	s KEY TOP
30pcs	2-358-583-01	o HOLDER, LED
1pc	3-708-563-01	o CAP
10pcs	4-927-278-41	s KEY TOP
10pcs	4-928-315-01	s KEY TOP
CN200	1-565-429-11	o CONNECTOR, 34P, MALE
CNI200	1-526-659-00	o SOCKET, IC 28P
CNI201	1-526-659-00	o SOCKET, IC 28P
CNI202	1-526-659-00	o SOCKET, IC 28P
CNI203	1-526-659-00	o SOCKET, IC 28P
CNI204	1-526-659-00	o SOCKET, IC 28P
CNI205	1-526-659-00	o SOCKET, IC 28P
D200	8-719-801-78	s DIODE 1SS184
D201	8-719-801-78	s DIODE 1SS184
D202	8-719-801-78	s DIODE 1SS184
D203	8-719-801-78	s DIODE 1SS184
D204	8-719-801-78	s DIODE 1SS184
D205	8-719-801-78	s DIODE 1SS184
D207	8-719-801-78	s DIODE 1SS184
D208	8-719-801-78	s DIODE 1SS184
D209	8-719-801-78	s DIODE 1SS184
D210	8-719-801-78	s DIODE 1SS184
D211	8-719-801-78	s DIODE 1SS184
D212	8-719-801-78	s DIODE 1SS184
D213	8-719-801-78	s DIODE 1SS184
D214	8-719-801-78	s DIODE 1SS184
D215	8-719-801-78	s DIODE 1SS184
D216	8-719-801-78	s DIODE 1SS184
D217	8-719-801-78	s DIODE 1SS184
D218	8-719-027-90	s DIODE SEL4814D
D219	8-719-027-90	s DIODE SEL4814D
D220	8-719-027-90	s DIODE SEL4814D
D221	8-719-027-90	s DIODE SEL4814D
D222	8-719-027-90	s DIODE SEL4814D
D223	8-719-027-90	s DIODE SEL4814D
D224	8-719-027-90	s DIODE SEL4814D
D225	8-719-027-90	s DIODE SEL4814D
D226	8-719-027-90	s DIODE SEL4814D
D227	8-719-027-90	s DIODE SEL4814D
D228	8-719-027-90	s DIODE SEL4814D
D229	8-719-027-90	s DIODE SEL4814D
D230	8-719-027-90	s DIODE SEL4814D
D231	8-719-027-90	s DIODE SEL4814D
D232	8-719-027-90	s DIODE SEL4814D
D233	8-719-027-90	s DIODE SEL4814D
D234	8-719-027-90	s DIODE SEL4814D
D235	8-719-027-90	s DIODE SEL4814D
D236	8-719-027-90	s DIODE SEL4814D
D237	8-719-027-90	s DIODE SEL4814D
D238	8-719-027-90	s DIODE SEL4814D
D239	8-719-027-90	s DIODE SEL4814D
D240	8-719-027-90	s DIODE SEL4814D
D241	8-719-027-90	s DIODE SEL4814D
D242	8-719-027-90	s DIODE SEL4814D
D243	8-719-027-90	s DIODE SEL4814D
D244	8-719-027-90	s DIODE SEL4814D

(ASW-32 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
D245	8-719-027-90	s DIODE SEL4814D
D246	8-719-027-90	s DIODE SEL4814D
D247	8-719-027-90	s DIODE SEL4814D
IC200	8-759-057-01	s IC HDSP-2111
IC201	8-759-057-01	s IC HDSP-2111
IC202	8-759-057-01	s IC HDSP-2111
IC203	8-759-057-01	s IC HDSP-2111
IC204	8-759-057-01	s IC HDSP-2111
IC205	8-759-057-01	s IC HDSP-2111
IC206	8-759-926-11	s IC SN74HC138ANS
IC207	8-759-234-67	s IC TMP82C79M-2
IC208	8-759-051-53	s IC TD62381F
IC209	8-759-926-11	s IC SN74HC138ANS
IC210	8-759-232-86	s IC TC74HC238AF
IC211	8-759-098-11	s IC TD62783F
IC212	8-759-232-86	s IC TC74HC238AF
IC213	8-759-098-11	s IC TD62783F
IC214	8-759-925-74	s IC SN74HC04ANS
IC215	8-759-098-11	s IC TD62783F
IC216	8-759-051-53	s IC TD62381F
IC217	8-759-231-58	s IC TA7812S
R201	1-249-401-11	s CARBON 47 5% 1/4W
R202	1-249-401-11	s CARBON 47 5% 1/4W
R203	1-249-401-11	s CARBON 47 5% 1/4W
R204	1-249-401-11	s CARBON 47 5% 1/4W
R205	1-249-401-11	s CARBON 47 5% 1/4W
R206	1-249-401-11	s CARBON 47 5% 1/4W
R207	1-249-401-11	s CARBON 47 5% 1/4W
R208	1-249-401-11	s CARBON 47 5% 1/4W
R209	1-249-397-11	s CARBON 22 5% 1/4W
R210	1-249-397-11	s CARBON 22 5% 1/4W
R211	1-249-397-11	s CARBON 22 5% 1/4W
R212	1-249-397-11	s CARBON 22 5% 1/4W
R213	1-249-397-11	s CARBON 22 5% 1/4W
R214	1-249-397-11	s CARBON 22 5% 1/4W
R215	1-249-397-11	s CARBON 22 5% 1/4W
R216	1-249-397-11	s CARBON 22 5% 1/4W
S201	1-692-347-11	s SWITCH, PUSH
S202	1-692-347-11	s SWITCH, PUSH
S203	1-692-347-11	s SWITCH, PUSH
S204	1-692-347-11	s SWITCH, PUSH
S205	1-692-347-11	s SWITCH, PUSH
S206	1-692-347-11	s SWITCH, PUSH
S207	1-692-347-11	s SWITCH, PUSH
S208	1-692-347-11	s SWITCH, PUSH
S209	1-692-347-11	s SWITCH, PUSH
S210	1-692-347-11	s SWITCH, PUSH
S211	1-692-347-11	s SWITCH, PUSH
S212	1-692-347-11	s SWITCH, PUSH
S213	1-571-656-21	s SWITCH, PUSH (WITH LED)
S214	1-571-656-21	s SWITCH, PUSH (WITH LED)
S215	1-571-656-21	s SWITCH, PUSH (WITH LED)
S216	1-571-656-21	s SWITCH, PUSH (WITH LED)
S217	1-571-656-21	s SWITCH, PUSH (WITH LED)
S218	1-571-656-21	s SWITCH, PUSH (WITH LED)
S219	1-571-656-21	s SWITCH, PUSH (WITH LED)
S220	1-571-656-21	s SWITCH, PUSH (WITH LED)

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.



## (ASW-32 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
S221	1-571-656-21	s SWITCH, PUSH (WITH LED)
S222	1-571-656-21	s SWITCH, PUSH (WITH LED)
S223	1-571-656-21	s SWITCH, PUSH (WITH LED)
S224	1-571-656-21	s SWITCH, PUSH (WITH LED)
S225	1-571-656-21	s SWITCH, PUSH (WITH LED)
S226	1-571-656-21	s SWITCH, PUSH (WITH LED)
S227	1-571-656-21	s SWITCH, PUSH (WITH LED)
S228	1-571-656-21	s SWITCH, PUSH (WITH LED)
S229	1-571-656-21	s SWITCH, PUSH (WITH LED)
S230	1-571-656-21	s SWITCH, PUSH (WITH LED)
S231	1-571-656-21	s SWITCH, PUSH (WITH LED)
S232	1-571-656-21	s SWITCH, PUSH (WITH LED)
S233	1-571-656-21	s SWITCH, PUSH (WITH LED)

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CN-893 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8275-503-A	o MOUNTED CIRCUIT BOARD, CN-893
2pcs	7-685-546-14	s SCREW +BTP 3X8 TYPE2 N-S
CN1	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN2	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN3	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN4	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN5	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN6	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN7	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN8	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN9	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN10	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN11	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN12	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN13	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN14	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN15	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN16	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN17	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN18	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN19	1-565-282-11	o CONNECTOR, XLR 3P, FEMALE
CN20	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN21	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN22	1-565-281-11	o CONNECTOR, XLR 3P, MALE
CN101	1-506-555-11	o HEADER 40P, MALE
CN102	1-560-807-00	o HEADER 60P, MALE
CN103	1-695-248-11	o HEADER 26P, MALE
CN104	1-563-766-11	o CONNECTOR, DIN 30P, FEMALE
CN105	1-564-915-11	o CONNECTOR, VH 7P, MALE
CN106	1-564-002-11	s CONNECTOR, 3P, MALE
CN107	1-506-702-11	o CONNECTOR, ILG 3P, MALE
D1	8-719-801-78	s DIODE 1SS184
D2	8-719-104-34	s DIODE 1S2836
D21	8-719-801-78	s DIODE 1SS184
D22	8-719-104-34	s DIODE 1S2836
D31	8-719-801-78	s DIODE 1SS184
D32	8-719-104-34	s DIODE 1S2836
D41	8-719-801-78	s DIODE 1SS184
D42	8-719-104-34	s DIODE 1S2836
D51	8-719-801-78	s DIODE 1SS184
D52	8-719-104-34	s DIODE 1S2836
D61	8-719-801-78	s DIODE 1SS184
D62	8-719-104-34	s DIODE 1S2836
D71	8-719-801-78	s DIODE 1SS184
D72	8-719-104-34	s DIODE 1S2836
D81	8-719-801-78	s DIODE 1SS184
D82	8-719-104-34	s DIODE 1S2836
D301	8-719-801-78	s DIODE 1SS184
D302	8-719-104-34	s DIODE 1S2836
D303	8-719-801-78	s DIODE 1SS184
D304	8-719-104-34	s DIODE 1S2836
D400	8-719-801-78	s DIODE 1SS184
D401	8-719-104-34	s DIODE 1S2836
FL1	1-424-008-11	s FILTER, NOISE (SIGNAL LINE)
FL2	1-424-008-11	s FILTER, NOISE (SIGNAL LINE)
IC1	8-759-923-64	s IC AM26LS32ACNS
IC2	8-759-923-64	s IC AM26LS32ACNS

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.

(CN-893 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
IC3	8-759-923-65 s	IC AM26LS31CNS
IC4	8-759-925-80 s	IC SN74HC14ANS
IC5	8-759-923-65 s	IC AM26LS31CNS
IC6	8-759-923-65 s	IC AM26LS31CNS
IC7	8-759-923-64 s	IC AM26LS32ACNS
IC8	8-759-927-29 s	IC SN74HCU04ANS
IC9	8-759-515-12 s	IC SN74ALS574BNS
IC10	8-759-926-76 s	IC SN74HC540ANS
IC11	8-759-231-53 s	IC TA7805S
R1	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R21	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R31	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R41	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R51	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R61	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R71	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R81	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R301	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R306	1-216-628-11 s	METAL, CHIP 110 0.5% 1/10W
R400	1-216-624-11 s	METAL, CHIP 75 0.5% 1/10W
R401	1-216-624-11 s	METAL, CHIP 75 0.5% 1/10W
R700	1-260-087-11 s	CARBON 100 5% 1/2W
T1	1-437-194-21 s	TRANSFORMER, PULSE
T2	1-437-194-21 s	TRANSFORMER, PULSE
T3	1-437-194-21 s	TRANSFORMER, PULSE
T4	1-437-194-21 s	TRANSFORMER, PULSE
T5	1-437-194-21 s	TRANSFORMER, PULSE
T6	1-437-194-21 s	TRANSFORMER, PULSE
T7	1-437-194-21 s	TRANSFORMER, PULSE
T8	1-437-194-21 s	TRANSFORMER, PULSE
T9	1-437-194-21 s	TRANSFORMER, PULSE
T10	1-437-194-21 s	TRANSFORMER, PULSE
T11	1-437-194-21 s	TRANSFORMER, PULSE
T12	1-437-194-21 s	TRANSFORMER, PULSE
T13	1-437-194-21 s	TRANSFORMER, PULSE
T14	1-437-194-21 s	TRANSFORMER, PULSE
T15	1-437-194-21 s	TRANSFORMER, PULSE
T16	1-437-194-21 s	TRANSFORMER, PULSE
T17	1-437-194-21 s	TRANSFORMER, PULSE
T18	1-437-194-21 s	TRANSFORMER, PULSE
T19	1-437-194-21 s	TRANSFORMER, PULSE

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CN-894 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8276-818-A o	MOUNTED CIRCUIT BOARD, CN-894
4pcs	7-682-548-04 s	SCREW +B 3X8
2pcs	7-685-546-14 s	SCREW +BTP 3X8 TYPE2 N-S
CN1	1-563-770-11 o	CONNECTOR, D-SUB 9P, FEMALE
CN2	1-563-772-11 o	CONNECTOR, D-SUB 25P, FEMALE
CN3	1-563-763-11 o	CONNECTOR, 30P, MALE
CN4	1-580-347-11 s	CONNECTOR, BNC, FEMALE
CN5	1-580-347-11 s	CONNECTOR, BNC, FEMALE
CN6	1-580-347-11 s	CONNECTOR, BNC, FEMALE
CN7	1-580-347-11 s	CONNECTOR, BNC, FEMALE

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CN-940 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8276-819-A o	MOUNTED CIRCUIT BOARD, CN-940
CN1	1-562-999-71 s	JACK, PIN 2P
CN2	1-564-013-11 o	CONNECTOR, 3P, MALE

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.

MIX-17 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8275-500-A	o MOUNTED CIRCUIT BOARD, MIX-17
C251	1-124-927-11	s ELECT 4.7 20% 100V
C252	1-124-927-11	s ELECT 4.7 20% 100V
C253	1-124-927-11	s ELECT 4.7 20% 100V
C254	1-124-927-11	s ELECT 4.7 20% 100V
C256	1-124-915-11	s ELECT 10 20% 63V
C351	1-125-447-11	s DOUBLE LAYERS 1F 5.5V
C451	1-124-927-11	s ELECT 4.7 20% 100V
C452	1-124-927-11	s ELECT 4.7 20% 100V
C453	1-124-927-11	s ELECT 4.7 20% 100V
C454	1-124-927-11	s ELECT 4.7 20% 100V
C456	1-124-915-11	s ELECT 10 20% 63V
C637	1-126-160-11	s ELECT 1 20% 50V
C655	1-102-963-00	s CERAMIC 33PF 5% 50V
C656	1-102-963-00	s CERAMIC 33PF 5% 50V
C756	1-136-165-00	s FILM 0.1 5% 50V
C762	1-126-160-11	s ELECT 1 20% 50V
C768	1-130-495-00	s FILM 0.1 5% 50V
C769	1-130-471-00	s FILM 0.001 5% 50V
C771	1-126-157-11	s ELECT 10 20% 16V
C772	1-131-368-00	s TANTALUM 3.3 10% 16V
C774	1-164-085-11	s CERAMIC 0.001 10% 50V
C775	1-130-495-00	s FILM 0.1 5% 50V
C779	1-102-963-00	s CERAMIC 33PF 5% 50V
C780	1-101-880-00	s CERAMIC 47PF 5% 50V
C781	1-126-160-11	s ELECT 1 20% 50V
C786	1-130-469-00	s FILM 680PF 5% 50V
C789	1-136-165-00	s FILM 0.1 5% 50V
C790	1-136-355-11	s FILM 330PF 5% 100V
C791	1-106-343-00	s FILM 0.001 5% 200V
C794	1-136-165-00	s FILM 0.1 5% 50V
C795	1-106-343-00	s FILM 0.001 5% 200V
C796	1-106-343-00	s FILM 0.001 5% 200V
C797	1-102-959-00	s CERAMIC 22PF 5% 50V
C798	1-102-959-00	s CERAMIC 22PF 5% 50V
C806	1-126-096-11	s ELECT 10 20% 35V
C807	1-126-096-11	s ELECT 10 20% 35V
C809	1-126-233-11	s ELECT 22 20% 50V
C811	1-126-233-11	s ELECT 22 20% 50V
C820	1-130-495-00	s FILM 0.1 5% 50V
C821	1-136-165-00	s FILM 0.1 5% 50V
C822	1-162-776-31	s CERAMIC 0.0082 5% 50V
C823	1-162-735-11	s CERAMIC 0.0012 1% 50V
C824	1-137-372-11	s FILM 0.022 5% 50V
C825	1-124-927-11	s ELECT 4.7 20% 100V
C1001	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1003	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1005	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1007	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1009	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1101	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1102	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1103	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1104	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1105	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1203	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1205	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1207	1-135-091-00	s TANTALUM, CHIP 1 10% 16V

(MIX-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
C1208	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1209	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1210	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1211	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1301	1-135-091-00	s TANTALUM, CHIP 1 10% 16V
C1342	1-124-927-11	s ELECT 4.7 20% 100V
C1343	1-124-927-11	s ELECT 4.7 20% 100V
C1345	1-124-927-11	s ELECT 4.7 20% 100V
C1346	1-124-927-11	s ELECT 4.7 20% 100V
C1347	1-126-233-11	s ELECT 22 20% 50V
C1351	1-124-927-11	s ELECT 4.7 20% 100V
C1352	1-124-927-11	s ELECT 4.7 20% 100V
C1353	1-124-927-11	s ELECT 4.7 20% 100V
C1354	1-124-927-11	s ELECT 4.7 20% 100V
C1356	1-126-233-11	s ELECT 22 20% 50V
C1501	1-130-474-00	s FILM 0.0018 5% 50V
C1506	1-130-477-00	s FILM 0.0033 5% 50V
C1507	1-130-477-00	s FILM 0.0033 5% 50V
C1508	1-130-477-00	s FILM 0.0033 5% 50V
C1521	1-130-474-00	s FILM 0.0018 5% 50V
C1526	1-130-477-00	s FILM 0.0033 5% 50V
C1527	1-130-477-00	s FILM 0.0033 5% 50V
C1528	1-130-477-00	s FILM 0.0033 5% 50V
CN8	1-566-312-11	s CONNECTOR, 50P, MALE
CN11	1-695-253-11	o HEADER 40P, MALE
CN12	1-695-255-11	o HEADER 60P, MALE
CN13	1-506-752-11	o CONNECTOR, DIN 96P, MALE
CNI106	1-526-656-21	s SOCKET, IC (DP) 20P
CNI206	1-526-656-21	s SOCKET, IC (DP) 20P
CNI212	1-526-656-21	s SOCKET, IC (DP) 20P
CNI213	1-526-656-21	s SOCKET, IC (DP) 20P
CNI301	1-526-662-21	o SOCKET, IC (DP) 40P
CNI302	1-526-659-00	o SOCKET, IC 28P
CNI406	1-526-656-21	s SOCKET, IC (DP) 20P
CNI412	1-526-656-21	s SOCKET, IC (DP) 20P
CNI503	1-526-662-21	o SOCKET, IC (DP) 40P
CNI602	1-526-659-00	o SOCKET, IC 28P
CNI718	1-526-656-21	s SOCKET, IC (DP) 20P
COR901	1-563-859-11	s PLUG, SHORTING
COR902	1-563-859-11	s PLUG, SHORTING
D32	8-719-911-19	s DIODE 1SS119
D103	8-719-812-43	s LED TLG124A, GRN
D104	8-719-812-43	s LED TLG124A, GRN
D105	8-719-812-43	s LED TLG124A, GRN
D106	8-719-812-43	s LED TLG124A, GRN
D107	8-719-812-43	s LED TLG124A, GRN
D108	8-719-812-43	s LED TLG124A, GRN
D201	8-719-987-87	s DIODE ERA85-009
D202	8-719-812-41	s LED TLR124, RED
D303	8-719-812-43	s LED TLG124A, GRN
D304	8-719-812-43	s LED TLG124A, GRN
D305	8-719-812-43	s LED TLG124A, GRN
D306	8-719-812-43	s LED TLG124A, GRN
D307	8-719-812-43	s LED TLG124A, GRN
D308	8-719-812-43	s LED TLG124A, GRN
D401	8-719-812-31	s LED TLR123, RED
D601	8-719-812-43	s LED TLG124A, GRN

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.

## (MIX-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
D602	8-719-812-43 s	LED TLG124A, GRN
D603	8-719-812-43 s	LED TLG124A, GRN
D604	8-719-812-43 s	LED TLG124A, GRN
D611	8-719-911-19 s	DIODE 1SS119
D705	8-719-911-19 s	DIODE 1SS119
D706	8-719-911-19 s	DIODE 1SS119
D719	8-719-109-85 s	DIODE RD5.1ES-B2
D720	8-719-911-19 s	DIODE 1SS119
D721	8-719-911-19 s	DIODE 1SS119
D724	8-719-032-05 s	DIODE KV1460TL00
D725	8-719-032-05 s	DIODE KV1460TL00
#D1000	8-719-911-19 s	DIODE 1SS119
D1501	8-719-911-19 s	DIODE 1SS119
D1502	8-719-911-19 s	DIODE 1SS119
FL1301	1-424-008-11 s	FILTER, NOISE (SIGNAL LINE)
FL1302	1-424-008-11 s	FILTER, NOISE (SIGNAL LINE)
IC100	8-759-926-77 s	IC SN74HC541ANS
IC101	8-759-926-49 s	IC SN74HC245ANS
IC102	8-759-926-49 s	IC SN74HC245ANS
IC104	8-759-244-75 s	IC TC74AC541F
IC106	8-759-253-24 o	IC GAL16V8-ADEC-V1.00
IC107	8-759-926-11 s	IC SN74HC138ANS
IC109	8-759-925-90 s	IC SN74HC74ANS
IC110	8-759-925-85 s	IC SN74HC32ANS
IC114	8-759-926-11 s	IC SN74HC138ANS
IC115	8-759-925-90 s	IC SN74HC74ANS
IC116	8-759-925-90 s	IC SN74HC74ANS
IC117	8-759-925-85 s	IC SN74HC32ANS
IC118	8-759-926-23 s	IC SN74HC163ANS
IC119	8-759-926-23 s	IC SN74HC163ANS
IC120	8-759-926-25 s	IC SN74HC165ANS
IC121	8-759-926-25 s	IC SN74HC165ANS
IC122	8-759-926-77 s	IC SN74HC541ANS
IC123	8-759-244-75 s	IC TC74AC541F
IC124	8-759-926-11 s	IC SN74HC138ANS
IC125	8-759-926-11 s	IC SN74HC138ANS
IC126	8-759-926-82 s	IC SN74HC574ANS
#IC128	8-759-244-75 s	IC TC74AC541F
IC130	8-759-925-90 s	IC SN74HC74ANS
IC131	8-759-925-74 s	IC SN74HC04ANS
IC201	8-759-052-57 s	IC TMP68305F-16
IC202	8-759-521-15 s	IC MAX232CWE
IC203	8-759-239-92 s	IC TC74HC07AF
IC204	8-759-925-80 s	IC SN74HC14ANS
IC205	8-759-927-46 s	IC SN74HC00ANS
IC206	8-759-253-23 o	IC GAL16V8-CPUDEC-V1.00
IC207	8-759-926-77 s	IC SN74HC541ANS
IC208	8-759-926-54 s	IC SN74HC259ANS
IC209	8-759-033-10 s	IC MC74F32M
IC211	8-759-989-91 s	IC TL7705ACPS
IC212	8-759-253-19 o	IC GAL16V8-IORW-V1.00
IC213	8-759-253-20 o	IC GAL16V8-DTCK-V1.00
IC214	8-759-244-12 s	IC TC74AC175F
IC215	8-759-926-74 s	IC SN74HC393ANS
IC301	8-759-253-17 o	IC 27C240-DNLAPL-V1.00
IC302	8-759-097-07 s	IC DS1643-120
#IC303	8-752-365-20 s	IC CXK581000AM-70LL
#IC304	8-752-365-20 s	IC CXK581000AM-70LL

## (MIX-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
#IC305	8-752-365-20 s	IC CXK581000AM-70LL
#IC306	8-752-365-20 s	IC CXK581000AM-70LL
IC307	8-759-926-77 s	IC SN74HC541ANS
IC308	8-759-926-77 s	IC SN74HC541ANS
IC309	8-759-926-49 s	IC SN74HC245ANS
IC310	8-759-926-82 s	IC SN74HC574ANS
IC311	8-759-926-77 s	IC SN74HC541ANS
IC401	8-759-052-57 s	IC TMP68305F-16
IC402	8-759-521-15 s	IC MAX232CWE
IC403	8-759-239-92 s	IC TC74HC07AF
IC406	8-759-253-22 o	IC GAL16V8-DSPDEC-V1.00
IC407	8-759-926-77 s	IC SN74HC541ANS
IC408	8-759-926-54 s	IC SN74HC259ANS
IC409	8-759-033-10 s	IC MC74F32M
IC410	8-759-033-02 s	IC MC74F04M
IC411	8-759-989-91 s	IC TL7705ACPS
IC412	8-759-253-21 o	IC GAL16V8-DSPDTCK-V1.00
IC501	8-759-973-43 s	IC MB8421-90LPFQ
IC502	8-759-973-43 s	IC MB8421-90LPFQ
IC503	8-759-253-16 o	IC 27C240-DSPAPL-V1.00
#IC504	8-752-365-20 s	IC CXK581000AM-70LL
#IC505	8-752-365-20 s	IC CXK581000AM-70LL
#IC506	8-752-365-20 s	IC CXK581000AM-70LL
#IC507	8-752-365-20 s	IC CXK581000AM-70LL
IC601	8-759-973-43 s	IC MB8421-90LPFQ
IC602	8-759-253-15 o	IC 27C256-9PIN-V1.00
IC603	8-759-151-04 s	IC UPD43256AGU-10LL
IC604	8-759-246-66 s	IC TMP284C015BF-6
IC605	8-759-925-85 s	IC SN74HC32ANS
IC606	8-759-925-74 s	IC SN74HC04ANS
IC607	8-759-926-07 s	IC SN74HC132ANS
IC608	8-759-926-23 s	IC SN74HC163ANS
IC609	8-759-061-67 s	IC MC34051M
IC701	8-759-987-27 s	IC LM1881M
IC702	8-759-925-90 s	IC SN74HC74ANS
IC703	8-759-927-46 s	IC SN74HC00ANS
IC704	8-759-926-23 s	IC SN74HC163ANS
IC705	8-759-926-23 s	IC SN74HC163ANS
IC706	8-759-926-23 s	IC SN74HC163ANS
IC707	8-759-927-46 s	IC SN74HC00ANS
IC708	8-759-239-55 s	IC TC74HC123AF
IC709	8-759-925-90 s	IC SN74HC74ANS
IC710	8-759-233-24 s	IC TC74HC390AF
IC711	8-759-239-55 s	IC TC74HC123AF
IC712	8-759-927-46 s	IC SN74HC00ANS
IC713	8-759-925-74 s	IC SN74HC04ANS
IC714	8-759-200-11 s	IC TC4011UBP
IC715	8-759-926-23 s	IC SN74HC163ANS
IC716	8-759-926-23 s	IC SN74HC163ANS
IC717	8-759-925-90 s	IC SN74HC74ANS
IC718	8-759-079-08 s	IC GAL16V8B-VPLL-V1.0
IC720	8-759-998-40 s	IC SN75124NS
IC721	8-759-927-46 s	IC SN74HC00ANS
IC722	8-759-239-55 s	IC TC74HC123AF
IC750	8-759-033-16 s	IC MC74F74M
IC751	8-759-925-72 s	IC SN74HC02ANS
IC752	8-759-233-66 s	IC TC74HCT04AF
IC753	8-752-306-51 s	IC CX23065A
IC754	8-759-030-52 s	IC MC74F163AM

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.

## (MIX-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
IC755	8-759-030-52	s IC MC74F163AM
IC757	8-759-097-52	s IC SN75123NS
IC758	8-759-926-82	s IC SN74HC574ANS
IC759	8-759-925-90	s IC SN74HC74ANS
IC760	8-759-926-23	s IC SN74HC163ANS
IC762	8-759-243-52	s IC TC74ACT08F
IC770	8-759-908-92	s IC TL084CNS
IC771	8-759-981-48	s IC TL082M
IC772	8-759-981-48	s IC TL082M
IC801	8-759-926-77	s IC SN74HC541ANS
IC803	8-759-169-85	s IC CXD8834Q
IC804	8-759-069-38	s IC CXD8278AQ
IC806	8-759-708-12	s IC NJM78L12A
IC807	8-759-079-12	s IC MC79L12CP
IC808	8-759-708-05	s IC NJM78L05A
IC809	8-759-107-35	s IC UPD5201C
IC810	8-759-069-38	s IC CXD8278AQ
IC811	8-759-982-04	s IC RC5532M
IC812	8-752-344-45	s IC CXD2555Q
IC814	8-759-158-99	s IC SSM-2142P
IC817	8-759-926-05	s IC SN74HC125ANS
IC818	8-759-926-06	s IC SN74HC126ANS
IC901	8-759-252-89	s IC AD1890JP
IC902	8-759-252-89	s IC AD1890JP
IC909	8-759-926-05	s IC SN74HC125ANS
IC910	8-759-926-06	s IC SN74HC126ANS
IC1001	8-752-352-30	s IC CXD2705AQ
IC1002	8-759-070-11	s IC TC514256BZ-60
IC1003	8-752-352-30	s IC CXD2705AQ
IC1004	8-759-070-11	s IC TC514256BZ-60
IC1005	8-752-352-30	s IC CXD2705AQ
IC1006	8-759-070-11	s IC TC514256BZ-60
IC1007	8-752-352-30	s IC CXD2705AQ
IC1008	8-759-070-11	s IC TC514256BZ-60
IC1009	8-752-352-30	s IC CXD2705AQ
IC1010	8-759-070-11	s IC TC514256BZ-60
IC1101	8-752-352-30	s IC CXD2705AQ
IC1102	8-752-352-30	s IC CXD2705AQ
IC1103	8-752-352-30	s IC CXD2705AQ
IC1104	8-752-352-30	s IC CXD2705AQ
IC1105	8-752-352-30	s IC CXD2705AQ
IC1106	8-759-043-67	s IC CXD8307Q
IC1203	8-752-352-30	s IC CXD2705AQ
IC1205	8-752-352-30	s IC CXD2705AQ
IC1207	8-752-352-30	s IC CXD2705AQ
IC1208	8-752-352-30	s IC CXD2705AQ
IC1209	8-752-352-30	s IC CXD2705AQ
IC1210	8-752-352-30	s IC CXD2705AQ
IC1211	8-752-352-30	s IC CXD2705AQ
IC1212	8-759-043-67	s IC CXD8307Q
IC1301	8-752-352-30	s IC CXD2705AQ
IC1302	8-759-169-84	s IC CXD8833Q
IC1303	8-759-994-41	s IC CXD8025Q
IC1304	8-759-926-18	s IC SN74HC157ANS
IC1310	8-759-708-05	s IC NJM78L05A
IC1311	8-759-700-65	s IC NJM79L05A
IC1312	8-759-708-05	s IC NJM78L05A
IC1313	8-759-700-65	s IC NJM79L05A
IC1341	8-759-156-71	s IC SM5843AP1

## (MIX-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
IC1342	8-759-253-90	s IC PCM1702U-J
IC1343	8-759-253-90	s IC PCM1702U-J
IC1501	8-759-982-04	s IC RC5532M
IC1502	8-759-982-04	s IC RC5532M
IC1521	8-759-982-04	s IC RC5532M
IC1522	8-759-982-04	s IC RC5532M
IC1531	8-759-982-04	s IC RC5532M
IC1551	8-759-158-99	s IC SSM-2142P
IC1553	8-759-158-99	s IC SSM-2142P
JW901	1-566-388-11	s CONNECTOR 8P, MALE
JW902	1-566-388-11	s CONNECTOR 8P, MALE
L3	1-410-517-11	s INDUCTOR 47uH
L1300	1-403-580-11	s COIL, CHOKE
L1301	1-406-929-11	s COIL, CHOKE
L1302	1-406-929-11	s COIL, CHOKE
L1390	1-403-580-11	s COIL, CHOKE
Q11	8-729-119-78	s TRANSISTOR 2SC2785-HFE
Q704	8-729-201-53	s TRANSISTOR 2SA1015-GR
Q705	8-729-119-78	s TRANSISTOR 2SC2785-HFE
Q706	8-729-207-36	s TRANSISTOR 2SJ105-GR
Q707	8-729-207-36	s TRANSISTOR 2SJ105-GR
Q708	8-729-207-36	s TRANSISTOR 2SJ105-GR
Q709	8-729-207-36	s TRANSISTOR 2SJ105-GR
Q1501	8-729-205-97	s TRANSISTOR 2SC3668-Y
R16	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R17	1-216-668-11	s METAL, CHIP 5.1K 0.5% 1/10W
R18	1-216-651-11	s METAL, CHIP 1K 0.5% 1/10W
R101	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R102	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R103	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R104	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R105	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R106	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R107	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R108	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R109	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R110	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
#R111	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
#R112	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
#R113	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
#R114	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
#R115	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
R116	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
R117	1-216-627-11	s METAL, CHIP 100 0.5% 1/10W
#R119	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
#R120	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
#R121	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
#R123	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
#R124	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
#R125	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
R235	1-216-627-11	s METAL, CHIP 100 0.5% 1/10W
R237	1-216-627-11	s METAL, CHIP 100 0.5% 1/10W
R614	1-215-389-00	s METAL 47 1% 1/4W
R615	1-215-389-00	s METAL 47 1% 1/4W
R700	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R701	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R703	1-218-760-11	s METAL, CHIP 220K 0.5% 1/10W
R705	1-247-804-11	s CARBON 75 5% 1/4W

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.

## (MIX-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R706	1-249-401-11	s CARBON 47 5% 1/4W
R707	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R708	1-216-651-11	s METAL, CHIP 1K 0.5% 1/10W
R710	1-215-385-00	s METAL 33 1% 1/4W
R711	1-218-772-11	s METAL, CHIP 680K 0.5% 1/10W
R750	1-216-614-11	s METAL, CHIP 30 0.5% 1/10W
#R751	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
#R752	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
R753	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
R754	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
#R755	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
#R756	1-216-619-11	s METAL, CHIP 47 0.5% 1/10W
R776	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R777	1-216-677-11	s METAL, CHIP 12K 0.5% 1/10W
R779	1-216-677-11	s METAL, CHIP 12K 0.5% 1/10W
R781	1-216-677-11	s METAL, CHIP 12K 0.5% 1/10W
R787	1-215-391-00	s METAL 56 1% 1/4W
R788	1-216-669-11	s METAL, CHIP 5.6K 0.5% 1/10W
R789	1-216-669-11	s METAL, CHIP 5.6K 0.5% 1/10W
R790	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R792	1-216-693-11	s METAL, CHIP 56K 0.5% 1/10W
R795	1-216-693-11	s METAL, CHIP 56K 0.5% 1/10W
R799	1-216-669-11	s METAL, CHIP 5.6K 0.5% 1/10W
R813	1-249-401-11	s CARBON 47 5% 1/4W
R820	1-216-679-11	s METAL, CHIP 15K 0.5% 1/10W
R821	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R822	1-215-389-00	s METAL 47 1% 1/4W
R1500	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1501	1-216-659-11	s METAL, CHIP 2.2K 0.5% 1/10W
R1502	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1503	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1504	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1505	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1506	1-216-670-11	s METAL, CHIP 6.2K 0.5% 1/10W
R1507	1-216-678-11	s METAL, CHIP 13K 0.5% 1/10W
R1521	1-216-659-11	s METAL, CHIP 2.2K 0.5% 1/10W
R1522	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1523	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1524	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1525	1-216-653-11	s METAL, CHIP 1.2K 0.5% 1/10W
R1526	1-216-670-11	s METAL, CHIP 6.2K 0.5% 1/10W
R1527	1-216-678-11	s METAL, CHIP 13K 0.5% 1/10W
R1559	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R1560	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R1565	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R1566	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R1585	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R1586	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
RV701	1-230-753-11	s RES, ADJ, CERMET 100K
RV702	1-230-753-11	s RES, ADJ, CERMET 100K
RV1501	1-230-748-11	s RES, ADJ, CERMET 2K
RV1521	1-230-748-11	s RES, ADJ, CERMET 2K
RY1501	1-515-716-11	s RELAY (TQ2-5V)
RY1502	1-515-716-11	s RELAY (TQ2-5V)
RY1503	1-515-716-11	s RELAY (TQ2-5V)
S101	1-554-937-11	s SWITCH, PUSH
S102	1-570-266-11	s SWITCH, PUSH (1 KEY)
S103	1-570-623-11	s SWITCH, DIP 8-CKT

## (MIX-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
S301	1-554-937-11	s SWITCH, PUSH
S402	1-570-266-11	s SWITCH, PUSH (1 KEY)
S403	1-570-623-11	s SWITCH, DIP 8-CKT
S602	1-554-937-11	s SWITCH, PUSH
X1	1-577-258-11	s CRYSTAL 32MHz
X101	1-577-170-11	s CRYSTAL 50MHz
X601	1-567-865-11	s CRYSTAL 12.00MHz
X701	8-749-923-59	s IC VCO-8003
X708	1-567-853-11	s CRYSTAL 4.8MHz
X709	1-567-852-11	s CRYSTAL 4.41MHz

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.

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MT-92 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8275-499-A	o MOUNTED CIRCUIT BOARD, MT-92
1pc	2-140-311-05	s KEY TOP
2pcs	2-140-311-07	s KEY TOP
8pcs	3-701-437-31	s WASHER
7pcs	4-928-315-71	s KEY TOP
CN1	1-565-429-11	o CONNECTOR, 34P, MALE
CN2	1-564-002-11	s CONNECTOR, 3P, MALE
CN3	1-695-246-11	o HEADDER 16P, MALE
CNI22	1-526-816-21	s SOCKET, IC (DP) 24P
CNI23	1-526-816-21	s SOCKET, IC (DP) 24P
D1	8-719-801-78	s DIODE 1SS184
D2	8-719-801-78	s DIODE 1SS184
D3	8-719-801-78	s DIODE 1SS184
D4	8-719-801-78	s DIODE 1SS184
D5	8-719-801-78	s DIODE 1SS184
D6	8-719-801-78	s DIODE 1SS184
D10	8-719-801-78	s DIODE 1SS184
D11	8-719-801-78	s DIODE 1SS184
D12	8-719-801-78	s DIODE 1SS184
D13	8-719-801-78	s DIODE 1SS184
D14	8-719-801-78	s DIODE 1SS184
D15	8-719-801-78	s DIODE 1SS184
D16	8-719-801-78	s DIODE 1SS184
D17	8-719-801-78	s DIODE 1SS184
D18	8-719-801-78	s DIODE 1SS184
D20	8-719-027-26	s DIODE HDSP-8825
D21	8-719-027-26	s DIODE HDSP-8825
IC1	8-759-232-86	s IC TC74HC238AF
IC2	8-759-234-67	s IC TMP82C79M-2
IC3	8-759-051-53	s IC TD62381F
IC4	8-759-926-11	s IC SN74HC138ANS
IC5	8-759-232-86	s IC TC74HC238AF
IC6	8-759-098-11	s IC TD62783F
IC7	8-759-926-11	s IC SN74HC138ANS
IC8	8-759-926-67	s IC SN74HC374ANS
IC9	8-759-926-21	s IC SN74HC161ANS
IC10	8-759-926-67	s IC SN74HC374ANS
IC11	8-759-926-67	s IC SN74HC374ANS
IC12	8-759-926-67	s IC SN74HC374ANS
IC13	8-759-926-67	s IC SN74HC374ANS
IC14	8-759-926-67	s IC SN74HC374ANS
IC15	8-759-926-67	s IC SN74HC374ANS
IC16	8-759-926-67	s IC SN74HC374ANS
IC17	8-759-926-67	s IC SN74HC374ANS
IC18	8-759-926-67	s IC SN74HC374ANS
IC22	8-759-253-18	o IC GAL22V10-MTSCAN-V1.00
IC23	8-759-253-18	o IC GAL22V10-MTSCAN-V1.00
IC24	8-759-232-69	s IC TC74HC160AF
IC25	8-759-232-69	s IC TC74HC160AF
IC26	8-759-931-56	s IC SN74LS684NS
IC27	8-759-931-56	s IC SN74LS684NS
IC28	8-759-931-56	s IC SN74LS684NS
IC29	8-759-931-56	s IC SN74LS684NS
IC30	8-759-931-56	s IC SN74LS684NS
IC32	8-759-927-46	s IC SN74HC00ANS
IC33	8-759-930-42	s IC SN74LS145NS
IC34	8-759-930-42	s IC SN74LS145NS

(MT-92 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
IC35	8-759-098-11	s IC TD62783F
IC36	8-759-098-11	s IC TD62783F
IC37	8-759-098-11	s IC TD62783F
IC38	8-759-925-90	s IC SN74HC74ANS
IC39	8-759-076-03	s IC MB88346BPF
R10	1-249-397-11	s CARBON 22 5% 1/4W
R11	1-249-397-11	s CARBON 22 5% 1/4W
R12	1-249-397-11	s CARBON 22 5% 1/4W
R13	1-249-397-11	s CARBON 22 5% 1/4W
R14	1-249-397-11	s CARBON 22 5% 1/4W
R15	1-249-397-11	s CARBON 22 5% 1/4W
R16	1-249-397-11	s CARBON 22 5% 1/4W
R17	1-249-397-11	s CARBON 22 5% 1/4W
R18	1-249-397-11	s CARBON 22 5% 1/4W
R19	1-249-397-11	s CARBON 22 5% 1/4W
R30	1-249-397-11	s CARBON 22 5% 1/4W
R31	1-249-397-11	s CARBON 22 5% 1/4W
R32	1-249-397-11	s CARBON 22 5% 1/4W
R33	1-249-397-11	s CARBON 22 5% 1/4W
R34	1-249-397-11	s CARBON 22 5% 1/4W
R35	1-249-397-11	s CARBON 22 5% 1/4W
R36	1-249-397-11	s CARBON 22 5% 1/4W
R37	1-249-397-11	s CARBON 22 5% 1/4W
R38	1-249-397-11	s CARBON 22 5% 1/4W
R39	1-249-397-11	s CARBON 22 5% 1/4W
R104	1-249-397-11	s CARBON 22 5% 1/4W
R105	1-249-397-11	s CARBON 22 5% 1/4W
R106	1-249-397-11	s CARBON 22 5% 1/4W
R107	1-249-397-11	s CARBON 22 5% 1/4W
R108	1-249-397-11	s CARBON 22 5% 1/4W
S1	1-571-656-21	s SWITCH, PUSH (WITH LED)
S2	1-571-656-21	s SWITCH, PUSH (WITH LED)
S3	1-571-656-21	s SWITCH, PUSH (WITH LED)
S4	1-571-656-21	s SWITCH, PUSH (WITH LED)
S5	1-571-656-21	s SWITCH, PUSH (WITH LED)
S6	1-571-656-21	s SWITCH, PUSH (WITH LED)
S7	1-571-656-21	s SWITCH, PUSH (WITH LED)
S8	1-571-656-21	s SWITCH, PUSH (WITH LED)
S9	1-571-656-21	s SWITCH, PUSH (WITH LED)
S10	1-571-656-21	s SWITCH, PUSH (WITH LED)
S11	1-467-562-11	s ENCODER (ROTARY TYPE)(WITH SW)
S12	1-467-562-11	s ENCODER (ROTARY TYPE)(WITH SW)
S13	1-467-562-11	s ENCODER (ROTARY TYPE)(WITH SW)
S14	1-467-562-11	s ENCODER (ROTARY TYPE)(WITH SW)
S15	1-467-562-11	s ENCODER (ROTARY TYPE)(WITH SW)

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.

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SW-644 BOARD  
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Ref. No.

or Q'ty Part No. SP Description

1pc	A-8275-504-A	o MOUNTED CIRCUIT BOARD, SW-644
1pc	1-569-193-11	o CONTACT, FEMALE
1pc	1-569-196-11	o HOUSING 3P
1pc	1-609-885-00	o PRINTED CIRCUIT BOARD, MIC
1pc	3-183-493-01	o TERMINAL, MIC
1pc	3-574-761-00	s HOLDER, MICROPHONE
3pcs	4-927-278-01	s KEY TOP
25pcs	4-928-315-01	s KEY TOP
6pcs	4-928-315-31	s KEY TOP
10pcs	4-928-315-71	s KEY TOP
1pc	8-814-189-31	s MICROPHONE, BUILT-IN (C-1007A)
CN101	1-563-337-11	s CONNECTOR, DIN 96P, FEMALE
CN102	1-565-429-11	o CONNECTOR, 34P, MALE
CN103	1-506-490-21	s CONNECTOR, 11P, MALE (ANGLE TYPE)
D101	8-719-801-78	s DIODE 1SS184
D102	8-719-801-78	s DIODE 1SS184
D103	8-719-801-78	s DIODE 1SS184
D104	8-719-801-78	s DIODE 1SS184
D105	8-719-801-78	s DIODE 1SS184
D106	8-719-801-78	s DIODE 1SS184
D107	8-719-801-78	s DIODE 1SS184
D108	8-719-801-78	s DIODE 1SS184
D109	8-719-801-78	s DIODE 1SS184
D110	8-719-801-78	s DIODE 1SS184
D111	8-719-801-78	s DIODE 1SS184
D112	8-719-801-78	s DIODE 1SS184
D113	8-719-801-78	s DIODE 1SS184
D114	8-719-801-78	s DIODE 1SS184
D115	8-719-801-78	s DIODE 1SS184
D116	8-719-801-78	s DIODE 1SS184
D117	8-719-801-78	s DIODE 1SS184
D118	8-719-801-78	s DIODE 1SS184
D119	8-719-801-78	s DIODE 1SS184
D120	8-719-801-78	s DIODE 1SS184
D121	8-719-801-78	s DIODE 1SS184
D122	8-719-801-78	s DIODE 1SS184
IC101	8-759-926-11	s IC SN74HC138ANS
IC102	8-759-926-11	s IC SN74HC138ANS
IC103	8-759-106-58	s IC UPD7004C
IC104	8-759-106-58	s IC UPD7004C
IC105	8-759-925-74	s IC SN74HC04ANS
IC106	8-759-234-67	s IC TMP82C79M-2
IC107	8-759-231-53	s IC TA7805S
IC108	8-759-051-53	s IC TD62381F
IC109	8-759-098-11	s IC TD62783F
IC110	8-759-926-11	s IC SN74HC138ANS
IC111	8-759-232-86	s IC TC74HC238AF
R101	1-249-397-11	s CARBON 22 5% 1/4W
R102	1-249-397-11	s CARBON 22 5% 1/4W
R103	1-249-397-11	s CARBON 22 5% 1/4W
R104	1-249-397-11	s CARBON 22 5% 1/4W
R105	1-249-397-11	s CARBON 22 5% 1/4W
R106	1-249-397-11	s CARBON 22 5% 1/4W
R107	1-249-397-11	s CARBON 22 5% 1/4W
R108	1-249-397-11	s CARBON 22 5% 1/4W
RV101	1-223-360-12	s RES, VAR, SLIDE 10K/10K

(SW-644 BOARD)

Ref. No.

or Q'ty Part No. SP Description

RV102	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV103	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV104	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV105	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV106	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV107	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV108	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV109	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV110	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV111	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV112	1-223-360-12	s RES, VAR, SLIDE 10K/10K
RV113	1-223-360-12	s RES, VAR, SLIDE 10K/10K
S101	1-571-656-21	s SWITCH, PUSH (WITH LED)
S102	1-571-656-21	s SWITCH, PUSH (WITH LED)
S103	1-571-656-21	s SWITCH, PUSH (WITH LED)
S104	1-571-656-21	s SWITCH, PUSH (WITH LED)
S105	1-571-656-21	s SWITCH, PUSH (WITH LED)
S106	1-571-656-21	s SWITCH, PUSH (WITH LED)
S107	1-571-656-21	s SWITCH, PUSH (WITH LED)
S108	1-571-656-21	s SWITCH, PUSH (WITH LED)
S109	1-571-656-21	s SWITCH, PUSH (WITH LED)
S110	1-571-656-21	s SWITCH, PUSH (WITH LED)
S111	1-571-656-21	s SWITCH, PUSH (WITH LED)
S112	1-571-656-21	s SWITCH, PUSH (WITH LED)
S113	1-571-656-21	s SWITCH, PUSH (WITH LED)
S114	1-571-656-21	s SWITCH, PUSH (WITH LED)
S115	1-571-656-21	s SWITCH, PUSH (WITH LED)
S116	1-571-656-21	s SWITCH, PUSH (WITH LED)
S117	1-571-656-21	s SWITCH, PUSH (WITH LED)
S118	1-571-656-21	s SWITCH, PUSH (WITH LED)
S119	1-571-656-21	s SWITCH, PUSH (WITH LED)
S120	1-571-656-21	s SWITCH, PUSH (WITH LED)
S121	1-571-656-21	s SWITCH, PUSH (WITH LED)
S122	1-571-656-21	s SWITCH, PUSH (WITH LED)
S123	1-571-656-21	s SWITCH, PUSH (WITH LED)
S124	1-571-656-21	s SWITCH, PUSH (WITH LED)
S125	1-571-656-21	s SWITCH, PUSH (WITH LED)
S126	1-571-656-21	s SWITCH, PUSH (WITH LED)
S127	1-571-656-21	s SWITCH, PUSH (WITH LED)
S128	1-571-656-21	s SWITCH, PUSH (WITH LED)
S129	1-571-656-21	s SWITCH, PUSH (WITH LED)
S130	1-571-656-21	s SWITCH, PUSH (WITH LED)
S131	1-571-656-21	s SWITCH, PUSH (WITH LED)
S132	1-571-656-21	s SWITCH, PUSH (WITH LED)
S133	1-571-656-21	s SWITCH, PUSH (WITH LED)
S134	1-571-656-21	s SWITCH, PUSH (WITH LED)
S135	1-571-656-21	s SWITCH, PUSH (WITH LED)
S136	1-571-656-21	s SWITCH, PUSH (WITH LED)
S137	1-571-656-21	s SWITCH, PUSH (WITH LED)
S138	1-571-656-21	s SWITCH, PUSH (WITH LED)
S139	1-571-656-21	s SWITCH, PUSH (WITH LED)
S140	1-571-656-21	s SWITCH, PUSH (WITH LED)
S141	1-571-656-21	s SWITCH, PUSH (WITH LED)
S142	1-571-656-21	s SWITCH, PUSH (WITH LED)
S143	1-571-656-21	s SWITCH, PUSH (WITH LED)
S144	1-571-656-21	s SWITCH, PUSH (WITH LED)

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.



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VR-174 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8275-501-A	o MOUNTED CIRCUIT BOARD, VR-174
1pc	3-183-494-01	o BRACKET, VR
C301	1-126-396-11	s ELECT, CHIP 47 20% 16V
C302	1-126-396-11	s ELECT, CHIP 47 20% 16V
C303	1-126-394-11	s ELECT, CHIP 10 20% 16V
C306	1-126-394-11	s ELECT, CHIP 10 20% 16V
C311	1-126-395-11	s ELECT 22 20% 16V
C314	1-126-396-11	s ELECT, CHIP 47 20% 16V
C315	1-126-394-11	s ELECT, CHIP 10 20% 16V
C316	1-126-401-11	s ELECT, CHIP 1 20% 50V
C318	1-126-396-11	s ELECT, CHIP 47 20% 16V
C320	1-126-395-11	s ELECT 22 20% 16V
C322	1-126-395-11	s ELECT 22 20% 16V
CN301	1-506-476-11	s CONNECTOR, 11P, MALE
CN302	1-564-002-11	s CONNECTOR, 3P, MALE
D301	8-719-911-19	s DIODE 1SS119
D302	8-719-911-19	s DIODE 1SS119
FL301	1-424-008-11	s FILTER, NOISE (SIGNAL LINE)
FL302	1-424-008-11	s FILTER, NOISE (SIGNAL LINE)
IC301	8-759-982-04	s IC RC5532M
IC302	8-759-996-43	s IC RC4558PS
J301	1-565-327-11	s JACK, LARGE TYPE 1P
Q301	8-729-203-04	s TRANSISTOR 2SK30A-GR
R301	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R302	1-216-643-11	s METAL, CHIP 470 0.5% 1/10W
R303	1-216-651-11	s METAL, CHIP 1K 0.5% 1/10W
R304	1-216-673-11	s METAL, CHIP 8.2K 0.5% 1/10W
R306	1-218-233-11	s METAL, CHIP 47 5% 1/2W
R307	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R308	1-216-643-11	s METAL, CHIP 470 0.5% 1/10W
R309	1-216-651-11	s METAL, CHIP 1K 0.5% 1/10W
R310	1-216-673-11	s METAL, CHIP 8.2K 0.5% 1/10W
R312	1-218-233-11	s METAL, CHIP 47 5% 1/2W
R313	1-216-662-11	s METAL, CHIP 3K 0.5% 1/10W
R314	1-216-657-11	s METAL, CHIP 1.8K 0.5% 1/10W
R315	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R316	1-216-643-11	s METAL, CHIP 470 0.5% 1/10W
R317	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R318	1-216-615-11	s METAL, CHIP 33 0.5% 1/10W
R319	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R320	1-216-674-11	s METAL, CHIP 9.1K 0.5% 1/10W
R321	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R322	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R323	1-216-687-11	s METAL, CHIP 33K 0.5% 1/10W
R324	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R325	1-216-671-11	s METAL, CHIP 6.8K 0.5% 1/10W
RV301	1-223-601-11	s RES, VAR, CARBON 10K
RV302	1-241-026-11	s RES, VAR, CARBON 5K
RV303	1-230-750-11	s RES, ADJ, CERMET 10K
RV304	1-230-750-11	s RES, ADJ, CERMET 10K

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FRAME  
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Ref. No. or Q'ty	Part No.	SP Description
MAIN OVERALL ASSY		
1	1-952-927-11	o HARNESS, MIX1
1	1-952-928-11	o HARNESS, MIX2
1	1-952-936-11	o HARNESS, GND1
HARNESS (GND2)		
	1-535-427-00	o TERMINAL, WIRE-END
HARNESS (GND3)		
	1-535-427-00	o TERMINAL, WIRE-END
HARNESS (PS-DC)		
	1-535-243-21	o CONTACT, FEMALE AWG22-28
	1-561-148-00	o HOUSING, 4P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
	1-562-833-11	o HOUSING, 7P
CASE ASSY		
1	1-413-950-11	s REGULATOR, SWITCHING(TDK MRW-161)
1	1-952-931-12	o HARNESS, P/S 1
1	1-424-451-11	s FILTER, NOISE GL-2060M
1	1-570-744-21	s SWITCH, AC POWER
PANEL ASSY, REAR		
1	1-541-890-21	s MOTOR, DC FAN (WITH FG)
1	1-952-926-11	o HARNESS, GPI
1	1-952-932-11	o HARNESS, CN940
PANEL ASSY, CONTROL		
1	1-952-929-11	o HARNESS, INSIDE BUS
1	1-952-930-11	o HARNESS, MT-LCD
1	1-952-933-11	o HARNESS, SW-VR
LCD ASSY		
1	1-564-862-11	o CONNECTOR (STRAIGHT) 20P, MALE
HARNESS (LCD-DC)		
	1-569-193-11	o CONTACT, FEMALE
	1-569-196-11	o HOUSING 3P
HARNESS (GND4)		
	1-535-427-00	o TERMINAL, WIRE-END

#### 6-4. ACCESSORIES SUPPLIED

Ref. No. or Q'ty	Part No.	SP Description
1	1-534-754-00	s POWER CORD (For J)
1	1-557-377-11	s CORD, POWER (For UC)
1	1-590-910-11	s CORD SET, POWER (For EK)
1	1-695-542-11	o TERMINATOR, BNC, 75
1	2-990-242-01	s HOLDER (B), PLUG
1	3-184-003-01	o PANEL, 10 U RACK MOUNT

NOTE : Please see pages 6-5 for the parts that are not listed in the parts list.

## SECTION 7 CHANGED PARTS

NOTE : The numbers identified by marking with ) are matching with each serial numbers.

- 308) Serial No. 10001 and higher (For UC)  
Serial No. 20001 and higher (For J)  
Serial No. 30001 and higher (For EK)  
310) Serial No. 10006 and higher (For UC)  
Serial No. 20016 and higher (For J)  
Serial No. 30021 and higher (For EK)

### MIX-17 BOARD

OLD) NOT USED

310) D1000 8-719-911-19 s DIODE 1SS119

OLD) IC128 8-759-927-18 s IC SN74HCT541ANS

310) IC128 8-759-244-75 s IC TC74AC541F

OLD) IC303 8-759-045-27 s IC UPD431000AGW-70L

310) IC303 8-752-365-20 s IC CXK581000AM-70LL

OLD) IC304 8-759-045-27 s IC UPD431000AGW-70L

310) IC304 8-752-365-20 s IC CXK581000AM-70LL

OLD) IC305 8-759-045-27 s IC UPD431000AGW-70L

310) IC305 8-752-365-20 s IC CXK581000AM-70LL

OLD) IC306 8-759-045-27 s IC UPD431000AGW-70L

310) IC306 8-752-365-20 s IC CXK581000AM-70LL

OLD) IC504 8-759-045-27 s IC UPD431000AGW-70L

310) IC504 8-752-365-20 s IC CXK581000AM-70LL

OLD) IC505 8-759-045-27 s IC UPD431000AGW-70L

310) IC505 8-752-365-20 s IC CXK581000AM-70LL

OLD) IC506 8-759-045-27 s IC UPD431000AGW-70L

310) IC506 8-752-365-20 s IC CXK581000AM-70LL

OLD) IC507 8-759-045-27 s IC UPD431000AGW-70L

310) IC507 8-752-365-20 s IC CXK581000AM-70LL

OLD) R111 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R111 1-216-614-11 s METAL, CHIP 30 0.5% 1/10W

OLD) R112 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R112 1-216-614-11 s METAL, CHIP 30 0.5% 1/10W

OLD) R113 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R113 1-216-614-11 s METAL, CHIP 30 0.5% 1/10W

OLD) R114 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R114 1-216-614-11 s METAL, CHIP 30 0.5% 1/10W

OLD) R115 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R115 1-216-614-11 s METAL, CHIP 30 0.5% 1/10W

OLD) R118 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R118 1-216-295-00 s METAL, CHIP 0 0.5% 1/10W

OLD) R119 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R119 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R120 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R120 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R121 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R121 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R122 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R122 1-216-295-00 s METAL, CHIP 0 0.5% 1/10W

OLD) R123 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R123 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R124 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R124 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R125 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R125 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R751 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R751 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R752 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R752 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R755 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R755 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W

OLD) R756 1-216-627-11 s METAL, CHIP 100 0.5% 1/10W

310) R756 1-216-619-11 s METAL, CHIP 47 0.5% 1/10W